THE ELEMENTS OF MEDICINE

OF

JOHN BROWN, M.D.

TRANSLATED FROM THE LATIN,

WITH COMMENTS AND ILLUSTRATIONS,

BY THE AUTHOR.

A NEW EDITION, REVISED AND CORRECTED,

WITH

A BIOGRAPHICAL PREFACE

BY THOMAS BEDDOES, M D.

AND

A HEAD OF THE AUTHOR.

"The coincidence of some parts of this work with correspondent deductions in the BRUNONIAN ELEMENTA MEDICINAE—a work (with some exceptions) of great genius—must be considered as a confirmation of the truth of the theory, as they were probably arrived at by different trains of reasoning."

DR. DARWIN. ZOONOMIA. p. 75.

IN TWO VOLUMES.

VOLUME I.

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BAYERISCHE
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TO

THE INGENIOUS,

THE CANDID,

AND

HUMANE,

THE FOLLOWING PRODUCTION

OF

UNFORTUNATE GENIUS,

IS INSCRIBED BY

THE EDITOR.

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Account of the Origin and Object of this Edition, and of the Circumſtances in which it differs from the preceding.

I CAN ſcarcely imagine an undertaking in which, a little while ago, I was leſs likely to engage than an edition of Dr. BROWN's *Elements of Medicine*; and I think it proper to ſtate, that it was not either the hope of fame or of profit, or enthuſiaſtic attachment to the ingenious author's ſyſtem, that induced me to ſubmit to a taſk ſo extremely unpleaſant. The penury in which Dr. Brown lived, and the diſtreſs in which he left his family, are ſo well known, that to mention them can be no indelicacy. Soon after his death, a ſubſcription in their behalf was ſet on foot, and produced conſiderable temporary advantage. But as the cir-

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cumſtances which gave riſe to that ſubſcription ſtill, in a great meaſure, ſubſiſt, it was conceived by ſome benevolent perſons, that a republication of his ſyſtem, of which few copies remain on ſale, might contribute to the ſame deſirable end. This reſolution being finally adopted, it became highly neceſſary to find a perſon willing to ſuperintend the edition. For this purpoſe application was made to me; and who could refuſe his aſſiſtance to ſo good a deſign? I fear, indeed, the author's family will not derive any great benefit from the adventure. The very attempt, however, to ſerve them, may afford this conſolation to men of genius, pining under poverty and neglect; that, although they themſelves may receive no reward for their uſeful labours, a ſenſe of their merit may at laſt procure ſome regard to thoſe who are neareſt and deareſt to them; an idea, in my opinion, full as ſoothing as the proſpect of poſthumous fame.

In

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In his tranſlation, Dr. Brown ſeems to have exceeded his uſual negligence. His Engliſh, it is true, when he is unfettered by the Latin idiom, ſhows that he was poorly qualified to do his own work juſtice, had he exerted his utmoſt care.—Theſe two cauſes conſpired with the laboured perplexity of his Latin ſtyle, to render the tranſlation diſguſtingly uncouth throughout, and in many paſſages almoſt impenetrably obſcure. Imagine the words of a ſchoolboy, raw in Engliſh, taken down, as he is in the uſual manner rendering a Latin author to his maſter, and you will have a juſt notion of the ſtyle of the work, which I had to refit for publication. Beſides, ſtrange as it may appear, he ſometimes miſtakes either his own meaning, or the import of the Engliſh terms, in which he tries to convey it. Here is an inſtance. CLIX. *Sitis et calor, quae inſignes quoque in morbis ſthenicis notae ſunt, a ſthenicâ in faucium et cutis extremis vaſculis diatheſi*

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theſi pendent, ita ea obturante, ut nondum perſpiratio reddatur, *ſed ſanguinem tamen ad penultimos vaſculorum fines pertranſire ſinat, et corporis genitum calorem, ob retentam adhuc perſpirationem, ſubter cuticulam cumulet.* This paſſage is thus tranſlated:—*Thirſt and heat, which are alſo remarkable ſymptoms in ſthenic diſeaſes, depend upon the ſthenic diatheſis in the extreme veſſels of the fauces and ſkin;* the diatheſis ſo obſtructing the veſſels as not to allow a return of perſpiration, *but to ſuffer however the blood to paſs into the very neighbourhood of the ends of the veſſels, and, by means of the ſuppreſſion of the perſpiration, to accumulate under the cuticle the heat generated in the ſyſtem.* Again: *Calor frigori ſuccedens,* he tranſlates, *Heat overcoming the effect of cold.*

An entirely new tranſlation was what I could by no means undertake. The next thing was to endeavour to render the author's meaning plainer by correcting his language throughout. Hitherto, few, I imagine,

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gine, except thoſe who attended the lectures in which it was delivered, have had any preciſe knowledge of a ſyſtem, which appears to me, in ſpite of many diſadvantages, to have wrought a memorable change in medical opinions and practice. This knowledge will, I hope, henceforward be found far leſs difficult to acquire.—In the typography of the firſt edition there was a remarkable peculiarity. The ſupplementary words inſerted in the text were printed in Italic characters, and very frequently ſhort explanatory phraſes were placed at the foot of the page. This ſeems to have been done in imitation of the Engliſh bible; nor do I doubt but the author conſidered his Latin text as ſacred, both on account of the purity of the ſtyle and the excellence of the doctrine. But as few readers, I conceive, will regard it with the ſame reverence, and as the effect is diſagreeable, the printer has been directed to change the italic for roman characters, and

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and to take the ſhort phraſes into the text. There were alſo certain corrections, as well as additions to the original work, given in Engliſh in the text, and in Latin at the bottom of the page. Theſe I have cauſed to be omitted. They can be of no uſe, except in caſe of another edition of the Latin work, for which they may be eaſily procured from the former edition of the tranſlation. To complete this account of the alterations I have made, it is neceſſary to add, that a few of the author's longer notes, for the reader's convenience, are received into the text.

With this ſtatement let the reader compare my inſtructions, which were "to give "a corrected tranſlation of the elements, "ſuch as the author, had he taken more "time, would have made or wiſhed to make; "for it ſhould ſtill remain his book; ſome "freedoms indeed, if that be thought ne-

"ceſſary,

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" ceſſary, may be taken, as the original La-
" tin will ſtill remain."

I have only to ſay further, that I have placed a table of contents at the head of each chapter; and inſtead of diſperſing the principal obſervations I had to make on the ſyſtem in notes, I thought it would be more advantageous to give them in connection.—An illuſtration by Mr. CHRISTIE, which has been found to aſſiſt ſome perſons in conceiving the Brunonian doctrines, and a table, compoſed many years ago, by Dr. Lynch, are alſo added to this Edition.

OBSERVATIONS

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PREFACE

TO THE

ORIGINAL WORK.

THE Author of this work has ſpent above twenty years in learning, teaching, and diligently ſcrutinizing every part of medicine. The firſt five paſt away in hearing others, in ſtudying what he had heard, implicitly believing it, and entering upon the poſſeſſion as a rich and valuable inheritance. His employment, the next five years, was to explain more clearly the ſeveral particulars, to refine and give them a nicer poliſh. During the five following years nothing having ſucceeded to his ſatisfaction, he grew indifferent to the ſubject; and, with many eminent men, with the very vulgar, began to deplore the healing art as altogether uncertain and incomprehenſible. All this time paſſed away without the acquiſition of any advantage; without that, which

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which of all things is the moſt agreeable to the mind, the light of truth; and ſo great and precious a portion of the ſhort and periſhable life of man, was totally loſt. He was, at this period, in the ſituation of a traveller in an unknown country, who, after loſing every trace of his way, wanders in the ſhades of night; nor was it till between the 15th and 20th year of his ſtudies that a faint gleam of light, like the firſt break of day, dawned upon him.

Seventeen years ago, in the thirty-ſixth year of his age, he had his firſt fit of the gout. For many years before, he had lived generouſly, except for the half year, previous to this attack, during which he had obſerved a more ſparing diet. In about ſix weeks the diſeaſe finiſhed its courſe; it did not return till ſix years after, and not even then, but in conſequence of unuſual low living for between five and ſix months. He was now in the vigour of his age, and, excepting the gouty taint, and ſome debility, brought on by his late unuſual abſtemiouſneſs, his conſtitution was good. The gout, according to theory, long prevalent among phyſicians, was ſaid to depend

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depend upon plethora and exceſſive vigour; vegetable aliment was enjoined, wine was forbidden, and the careful execution of that plan of cure was promiſed to be rewarded with exemption from the diſeaſe. A whole year paſt in ſtrict adherence to this regimen. During this year, inſtead of exemption from the diſeaſe, he had no leſs than four fits, exceedingly violent and painful, and of very long duration: In ſhort, the whole year, except fourteen days, was divided between limping and excruciating pain.

If according to the theory over-proportion of blood and exceſs of vigour were the cauſe of the diſeaſe, how he conſidered, were ſuch diſtreſſing ſymptoms to be explained? Why had not the diſeaſe made its firſt appearance twelve or fifteen years before, at a time when there was in reality more blood and vigour in the ſyſtem (*a*)? Why did it only come on

(*a*) The blood is made from the food and in proportion to its quantity, quality, and the completeneſs of its digeſtion. Now, before each of his laſt fits for the time ſpecified in the text, as well as during the whole courſe of the attacks of the ſecond year, his food had

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on after a reduction of diet conſiderable both in degree and duration? Why had ſo great an interval of time, during which he had returned to his uſual full diet, intervened between the firſt fit, and theſe recent ones? and, why had the diſeaſe twice, almoſt inſtantaneouſly, come on after the change of a full nouriſhing diet to a ſparing one? The ſolution of this queſtion was, at length, afforded by the ſtatement of one more comprehenſive.—What is the effect of food, drink, and the things that ſupport life? They produce ſtrength. What is their effect afterwards? Always leſs and leſs. What is it towards the end of life? So far from giving ſtrength, they evidently prove weakening. Nay, the very ſame powers, by which life was at firſt ſupported, at laſt put an end to it, commonly through the intervention of diſeaſe.

Notwithſtanding diſeaſe firſt and afterwards death are produced not by the priva-

had been almoſt ſolely vegetable, and, therefore, was not ſuited to produce enough, much leſs an exceſſive quantity, of blood, and the digeſtion was alſo more imperfect.

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tion, but by the abundance of thoſe things, by which life is ſuſtained, he perceived that debility was the cauſe of his diſorder; and that the remedy was to be ſought, not in debilitating but ſtrengthening meaſures. To this ſort of debility he thought proper to give the name of *indirect*. Such for two years was the ſucceſs of the invigorating plan, which he immediately after his reflections and queries carried into execution, that at the end of this time he had only a ſlight fit, not equal to the fourth part of any of the former fits. Now no phyſician will deny, that the recurrence of ſuch a diſeaſe as the gout, which had made four attacks in one year, would have been more frequent ſtill during each of the next two years, had the ſame treatment been continued; nor will any one think the addition of two fits every year too much. The mild fit was four times leſs ſevere than either of the more violent ones. Multiply, therefore, twelve by four, and according to this computation, the proportion, in which the diſeaſe was alleviated will be as eight and forty to one. During the firſt year, he had

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made uſe of vegetable food alone. During theſe two years, his only food was of the land animal kind, and of the moſt nutritious quality. His choice was directed to the beſt in kind; and he obſerved no other precaution except being moderate in the quantity he uſed. Moſt kinds of fiſh, whether from the ſea or freſh water, he found nearly as debilitating as vegetable matter, when ſolely or chiefly relied upon for a meal. A young gentleman, who lived with him, and had laboured under a very ſevere aſthma, in conſequence of the ſame treatment, had only one fit at the end of the ſame two years, inſtead of a fit every day, as he had during the common treatment.

Afterwards, to refute a prevailing opinion, that the gout cannot depend upon debility, becauſe inflammation accompanies it; little doubting that the inflammation itſelf depends on debility, he ſubjected the queſtion to experiment. He invited ſome friends to dinner and by taking certain ſtimulants in their preſence (*b*), recovered the moſt perfect uſe

(*b*) Theſe are mentioned in Dr. Jones's Enquiry;

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of that foot, with which, before dinner, he could not touch the floor for pain. By this he ſaw, that not only the gout itſelf, but the inflammation accompanying it, was aſthenic, that is, depending on debility. And he found, afterwards, the inflammations affecting the throat in the putrid and gangrenous ſore throat, and the joints in *rheumatalgia*, or that rheumatiſm which depends upon debility, and is improperly denominated chronic rheumatiſm to be aſthenic: as alſo the inflammation, which is imagined, with whatever juſtneſs, ſometimes to attack the brain at the end of typhus.

As the gout affects the alimentary canal, and eſpecially the ſtomach, and in its courſe is attended with ſymptoms ſimilar to thoſe that occur in dyſpepſia; he was deſirous to know if there was any affinity betwixt theſe diſeaſes, and he found that dyſpepſia equally with gout depended on debility, and yielded to ſtimulant remedies. Nay, he afterwards aſcertained, that all ſpaſmodic convulſive diſeaſes of the alimentary canal, and nearly a

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the diſeaſes of children, (*c*) were of the ſame ſtamp.

Continuing his inveſtigation of ſpaſmodic and convulſive diſeaſes, when they occupy the organs of voluntary motion; he diſcovered that their nature was alſo the ſame in kind, but only greater in degree; as they are exemplified in the ſpaſms and pains, that occur in various parts of the external ſurface of the body, and in epilepſy, and in tetanus themſelves. Hence he diſcerned, that a vaſt number of affections, in which, upon the ſuppoſition of their being inflammatory, no limits had been ſet to the uſe of the lancet,

(*c*) A groſs and dangerous errour! Children are very ſubject to inflammatory diſeaſes of the thorax, which require bleeding; ſometimes when the hooping cough is prevalent, peripneumony ſupervenes: in which caſe bleeding is almoſt eſſentially neceſſary to the preſervation of life.—Children are ſubject to other inflammatory diſeaſes as well partial as general. The *croup and hydrocephalus internus*, if the latter be ſthenic at firſt, are forms of inflammatory affection, almoſt peculiar to children. It is true, thouſands are cut off at an early period of life, and tens of thouſands are kept languiſhing during childhood in a ſtate of miſery, by aſthenic diſeaſes. But their chief cauſe is the want of the neceſſaries of life. EDITOR.

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inſtead of ariſing from an over-proportion of blood and exceſſive vigour, or any other ſuch cauſe, depended upon an under-proportion of that fluid, and other cauſes of debility, and were to be cured, not by bleeding, or any other evacuations, but by filling the veſſels, and reſtoring the ſtrength of the whole ſyſtem.

At firſt, for the purpoſe of removing fits of the gout, he went no farther than the uſe of wine, and other ſtrong liquors, with nouriſhing food, that is, ſeaſoned meat, and kept the more powerful remedies in reſerve. But, for many years paſt, his ſurprizing ſucceſs in the uſe of the latter, has enabled him to find in opium and ſome other ſtimuli, the ſecret of repelling the fits of the gout as often as they returned, and, at the ſame time, of re-eſtabliſhing the healthy ſtate, a ſecret that has hitherto been ſo much wanted and deſpaired of. This he has often effected both in himſelf and in other perſons. It is now ſeven years ſince he has been able entirely to prevent the return of the diſeaſe.

By ſimilar inſtances in actual practice, he found that bleeding diſcharges, which are

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called hæmorrhages, do not depend on plethora and vigour, but upon penury of blood or debility arising from some other source, and therefore he rejected them from the number of sthenic diseases (*d*), among which they had been arranged in the first edition of his text book, reserving a place for them among the asthenic diseases in the second volume of that work. For he saw, that bleeding, other evacuations, abstinence, cold, and sedatives, as they are called, proved hurtful; and that the stimulant plan of cure alone was successful. Even wine and brandy, which had been thought so hurtful in those diseases, he found the most powerful of all remedies in removing them. Hence he learned, that in all the diseases, in which others had supposed there was abundance of blood, there was a deficiency, that the real cause of these diseases was debility, arising from defect of blood and other stimuli; and that stimulants, given in proportion to the degree of the cause, were the proper remedies.

(*d*) Sthenic diseases, as will be afterwards explained, are such as depend upon an excessive application of the several powers that otherwise produce health.

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By the light that thus beamed in from practice, he ſaw, that the cauſe and cure of fevers, both intermittent and continued, were the ſame.

Gradually led, as it were, by the hand of nature, around the whole circle of aſthenic diſeaſes, he became convinced that they all depended upon the ſame cauſe, that is, debility; that they were all to be removed by the ſame kind of remedies, to wit, ſtimulants (*e*); and that neither their cauſe nor their cure differed but in degree.

With reſpect to ſthenic diſeaſes, the cauſe or cure of which nobody had underſtood; he was long ago aware that neither the inflammation, nor the other ſymptoms attending them, as had been univerſally believed by ſyſtematics, were the cauſe, but the effect: that the inflammation aroſe from the cauſe, i. e. the diatheſis, or habit, and that it did not occur at all except in caſes where the diatheſis was very ſtrong. In fine, he experi-

(*e*) Wherever the word ſtimulant is uſed without a particular qualification of its degree, the degree is underſtood to be greater than that required in the healthy ſtate, as will afterwards more fully be explained.

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enced in his own perſon, that catarrh was not produced by cold, according to the common opinion, but by heat, and other ſtimuli, and was removed by cold and other debilitating powers. By this diſcovery he was led to form a proper judgment of the catarrhal ſymptoms in the meaſles: Concerning which the great man who ſo much improved the cure of ſthenic diſeaſes, but who never attained to any knowledge of the aſthenic, was miſled by the alexipharmic phyſicians. And, as theſe ſymptoms are the moſt dangerous part of the diſeaſe, he was right in ſuppoſing, that the proper treatment of them was of great importance to the cure of the whole diſeaſe. In conſequence it came out that the refrigerating antiphlogiſtic plan was of as much ſervice in the meaſles as in the ſmall-pox.

In ſthenic diſeaſes he illuſtrated the cauſe, enlarged the plan of cure, accounted for the ſymptoms, and reduced the whole to a certain principle; he diſtributed all general or univerſal diſeaſes into two forms, a ſthenic and an aſthenic. He demonſtrated that the former depended upon exceſs, the latter upon deficiency, of exciting power; that the former

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mer were to be removed by debilitating, the latter by ſtimulant, remedies; that the noxious powers, which excited either, were the remedies of the other, and the contrary; and that they acted in the ſame manner as the powers which produce the moſt perfect health, with only a difference in degree. He extended the ſame doctrine to plants. He laid down a principle which is illuſtrated and confirmed by every particular appearance, and by which every particular appearance is connected and illuſtrated. Finally, he demanded whether the medical art, hitherto conjectural, incoherent, and in the great body of its doctrines falſe, was not at laſt reduced to a ſcience of demonſtration, which might be called the ſcience of life—a queſtion which has been anſwered in the affirmative by every one who has been at due pains to underſtand the doctrine.

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THE

AUTHOR'S PREFACE

TO THE

TRANSLATION.

A PRESSING, and very general, demand for an Engliſh tranſlation of the Elementa Medicinæ, made ſeveral years before the publication of the ſecond edition of that work, and ſucceſſively repeated with an increaſing importunity ever ſince; a deſire of ſpreading the knowledge of a doctrine, which had exhibited ſo many indubitable proofs of its importance and utility to mankind; an ambition, not quite extinguiſhed by advancing years, domeſtic cares, and a declining ſtate of health, to get the better of the keeneſt, and moſt univerſal, perſecution, that ever was raiſed againſt an uſeful and extenſive diſcovery; the neceſſity for a tranſlation in the

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the preſent decaying ſtate of the knowledge of the Latin language; the danger of the doctrine coming before the public from adventurers unequal to the taſk; and ſome other circumſtances, partly of a private, partly of a domeſtic, nature, with which it would be impertinent to trouble the reader; all theſe, at laſt prevailed with the author to ſubmit, for once, to a taſk, otherwiſe not deſirable, that of tranſlating his own work. Such a taſk ſeemed more naturally calculated to lay the foundation of the commencing fame of an ingenious pupil. But, as no one of many, whoſe literature and knowledge of the ſubject completely qualified them for the undertaking, wiſhed to ſuperſede the occaſion for his engaging in it himſelf; and as the courage of ſeveral perſons of a different deſcription keeped not pace with their affectation or intereſtedneſs; it is to be hoped the public will not be diſpleaſed to receive the work from the author himſelf. This performance is intended for the uſe of three ſets of readers; thoſe who do not readily enter into a thought conveyed in pure Latin, and, who, therefore, might wiſh to be poſſeſſed of a tranſlation

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a tranſlation for the ſake of comparing it with the original, and, thereby, of acquiring, renewing, or improving their knowledge of the latter; thoſe, who are only acquainted with ſuch Latin, as has prevailed in modern times; and, laſtly, thoſe, who either cannot, or will not be ſubjected to the trouble of reading Latin at all, and who, ſurely, may often be better employed.

Both this, and the original work, are intended not for the excluſive uſe of medical readers, but alſo for that of the public at large, it being evident, that, without even the exception of the profeſſional knowledge of each individual, that of his own health is preferable to all other. And ſuch an acquiſition becomes valuable in proportion to its juſtneſs and ſolidity. The public are preſented with a work, that claims the merit of having reduced the doctrine and practice of medicine to ſcientific certainty and exactneſs. With reſpect to the form, in which it is delivered, it is ſtripped of that jargon of numerous, unmeaning or miſleading terms, and all that myſtery either in ſtyle or matter, that has hitherto rendered the pretended healing art

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art impenetrable to the moſt intelligent and diſcerning, and locked it faſt up in the ſchools. No terms are admitted but the few that neceſſity impoſed, and theſe are every where defined. The ſtyle is ſimple, and ſuited to the ſimplicity of the ſubject. In the language and compoſition, as far as the thoughts, which are new throughout, and that reſtraint, which is inſeparable from exactneſs of tranſlation, permit, clearneſs is every where preferred to elegance, and diffuſion to brevity.

The author, in prefixing his name to both forms of his work, has thrown the gauntlet to its numerous, but anonymous, oppoſers. They are, therefore, called upon, now or never, to diſprove it, and the judicious and candid part of mankind to judge between the parties.

THE

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OBSERVATIONS

ON THE

CHARACTER AND WRITINGS

OF

JOHN BROWN, M.D.

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OBSERVATIONS

ON THE

CHARACTER AND WRITINGS

OF

JOHN BROWN, M.D.

AT the time I undertook to ſuperintend this republication of the Brunonian Syſtem of Medicine, I was pleaſed with the proſpect of recording the life of its extraordinary author. Of the viciſſitudes he experienced I had formerly heard enough to be perſuaded that they would furniſh a narrative ſufficiently amuſing. I was, moreover, aware of circumſtances in his hiſtory, which it would be impoſſible to relate without adverting to the condition of medicine—a ſubject concerning which, unfortunately for many who have occaſion to ſeek aſſiſtance

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from that art, groſs miſconceptions prevail throughout ſociety.

I find myſelf, however, obliged to relinquiſh the office of biographer, ſuch as I had conceived it. Of late I have had few opportunities of perſonal inquiry; and very little of the information, I had reaſon to expect, has reached me. Nevertheleſs, I may ſucceed in delineating the moral portrait of my hero, for his character was exceedingly open to obſervation; and in his productions the temper and underſtanding of the man are moſt faithfully exhibited.

A perſon, who was his ſchool-fellow, and afterwards his pupil at ſchool, informs me that his parents were mean, but honeſt. What was the particular occupation of his father I have not heard. Had his condition been ſuperiour to that of a petty village artificer, I ſuppoſe the original deſtination of the ſon would have been higher, for this is an affair in which parents ſeldom err by exceſs of humility.

Mr. WAIT, the late reſpectable rector of Dumfries ſchool, ſuppoſes that John Brown was born in 1735 or 1736. He was a native of

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of the pariſh of Buncle, in the county of Berwick. He himſelf, in order to aſſociate his name with that of John Duns Scotus, commemorates the place of his education rather than of his birth. From expreſſions he ſometimes dropped in his lectures, I conclude that he was endowed with that quickneſs of ſympathy and that ſenſibility to the charms of nature, which characterize the infancy of genius. This warmth of heart, I believe, he never loſt.

I am ſorry I cannot minutely trace the ſteps, by which he advanced towards intellectual eminence. Mr. WAIT, without whoſe communications mine would have been a meagre narrative, ſtates that "he "early diſcovered uncommon talents. His "aptitude for improvement," continues this gentleman, "induced his parents, after hav-"ing fruitleſsly bound him apprentice to a "weaver, to change his deſtination. He "was, accordingly, ſent to the grammar-"ſchool of Dunſe, where, under Mr. Cruick-"ſhank, an able teacher, he ſtudied with "great ardour and ſucceſs. Indeed, he was, "at that time, regarded as a prodigy. I

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" went the ſame road to ſchool with him;
" and his application, I well remember, was
" ſo intenſe that he was ſeldom without a
" book in his hand." It is a ſingular coincidence, that the two individuals, who in theſe times have been principally celebrated for their attempts to extend the knowledge of animal nature, ſhould have been both natives of Scotland, and that each ſhould have been put to a coarſe mechanical employment—John Brown to the trade of a weaver, and John Hunter (according to common fame and the report of one of his biographers) to that of a carpenter or wheelwright.

By an anonymous writer, who ſeems well-informed, it is aſſerted that Brown " ſub-
" mitted in his youth to be a reaper of corn
" to procure for himſelf the means of im-
" provement. With the price of ſuch la-
" bour he put himſelf to ſchool, where his
" abilities and ardour attracted the notice
" of his maſter, and procured him the place
" of aſſiſtant to the ſchool (*a*)." His revolt

(*a*) Analytical Review for Auguſt, 1789, p. 450.

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from the loom, according to this account, muſt have been attended with highly honourable circumſtances: and the reader will deſire fuller information concerning both his motives and conduct than has been tranſmitted to me.—From the cuſtom of the country, we may preſume that he had received much more inſtruction, before he was put apprentice, than commonly falls to the lot of boys of his condition in England. Conſidering the energy of his mind, we cannot be ſurprized that a little cultivation ſhould have rendered the gloomy and uniform labour of a weaver diſtaſteful. But this, though true, is perhaps not the whole truth. As he was repelled on the one hand, ſo he might, on the other, have had ſome peculiar attraction towards literature. The ſuppoſition is, at leaſt, conformable to analogy; ſince in the hiſtory of eminent men, when we are fully acquainted with it, we never fail to diſcover ſome incident, which has determined each individual towards the purſuit in which he has excelled. Now I imagine Brown may have applied himſelf with ſuch unuſual aſſi-

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duity to ſchool learning from a perſuaſion that it would qualify him to propagate more effectually the tenets of his ſect. My conjecture is founded on the following expreſſions of Mr. Wait: "he had at this time"—the time of his entrance at Dunſe ſchool—"ſober habits: he was exceedingly religious, and ſo attached to the ſect of *Seceders* or *Whigs*, as they are called in Scotland, that I really believe he would have thought his ſalvation hazarded, if he had heard or read the profane diſcourſes of the Scotch eſtabliſhment. He aſpired to be the miniſter of a purer church, of which it was expected he would prove a choſen veſſel." Nor is this force of religious ſentiment unuſual in youthful minds. Samuel Johnſon was early ſtruck with ſuperſtitious terrour: Haller had ſcarcely emerged from his infancy, when he began to preach to his father's domeſtics: and in families, where the hatred of ſect againſt ſect is cheriſhed, one may generally perceive its moſt virulent tokens in the boys. The moſt humanized of my readers may remember the time when he glowed with zeal againſt perſons who had been

been taught a different creed: and where reflection, ſoftening the heart into univerſal charity, has not introduced perfect indifference as to the religion or irreligion of others, the pious flame muſt be ſtill alive.

The years of Brown's grammar education appear to have been, in no common degree, well-ſpent and happy. He had vigour of body with vigour of mind, and exerted both. He himſelf, with much complacency, relates proofs of that ſtrength, which his appearance indicated. When a boy, he ſays he valued himſelf on being a ſtout walker. At fifteen, on a ſummer's day, he performed a march of fifty miles between Berwick upon Tweed and Morpeth in Northumberland. Some years afterwards, he travelled on foot, reſting but one hour and making but one "hearty" meal, from four o'clock in the evening of one day till two in the evening of the day following—two-and-twenty hours—with ſo ſhort an intermiſſion! During this excurſion, he traverſed "all ſorts of ground, in "roads and out, over ſmooth and plain, "mountain and heath."—We have ſeen, however, that he could make a more rational uſe

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uſe of his ſtrength than merely to ſtake it againſt time and ſpace.

While he was thriving in godlineſs and knowledge, but at what preciſe period I am not informed, there occurred an incident which finally diverted him from the path he had hitherto with ſo much alacrity purſued. At a meeting of the provincial ſynod of the Merſe and Teviotdale, a party of his ſchool-fellows urged him to accompany them to the pariſh church of Dunſe. He manifeſted reluctance, but yielded to their importunity, and remained to hear the ſermon. The ſcandal did not paſs unnoticed. He was ſummoned before the ſeſſion of the ſeceding congregation; but not chooſing either to atone by an apology for his ſin in mixing with profane worſhippers, or to wait for a formal ſentence of excommunication, he abdicated his principles, and profeſſed himſelf a member of the eſtabliſhment. Thus, bigotry is often but the maſque of avarice, pride, or ambition; and here, though the nature of his preſent zeal was a ſecret to the zealot himſelf, we ſee it fully diſcloſed by this inſtructive anecdote. Encouragement at

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firſt, and afterwards flattery, from his brethren, ſeem to have formed a ſtrong connection between the peculiar articles of his faith and a ſenſe of his perſonal importance; the moment this connection was diſſolved, an alteration of ſentiment ſucceeded, not very much unlike that produced in Luther's mind by the offenſive meaſure of the pope: the opinions he had ſo warmly cheriſhed loſt all their value in his eſtimation; or rather, perhaps, became odious from the diſgrace with which they threatened him. Religious enthuſiaſm, however, ſurvived this ſacrifice to pride; and his friends ſtill recollect the vehement indignation he expreſſed on account of the dangerous tendency of Mr. HUME's ſpeculative writings; which, ſome time after this event, he found much the ſubject of converſation at Edinburgh.

Thoſe who regard the Scottiſh eſtabliſhment as the true apoſtolical church may have cauſe to rejoice, that ſo ardent a ſeceder did not perſevere in his original zeal. For complaints are ſometimes heard in Scotland, as well as in England, of the increaſe of ſectaries; and he might have become formidable as

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as a propagator of ſchiſmatic doctrines. Among the divines of his nation he would have been unrivalled in claſſical learning; and I ſee not what ſhould have hindered a man endowed with ſo acute and comprehenſive a genius from attaining equal pre-eminence in polemical divinity. He would have marched with alacrity into the field of controverſy, and confidently aſſailed the ſtouteſt champion of the adverſe hoſt. His vehement eloquence muſt have been deeply felt by audiences, to whom his dialect was intelligible and inoffenſive: and, as little regard will be paid to ſtyle, when the thoughts are intent on the high concerns of *grace*, *faith*, *good works*, *election*, and *reprobation*, he might have ſeconded, with his pen, the effect of his perſonal labours. Had the incredulity of the age induced him to undertake a general treatiſe on chriſtianity, he was capable of rendering Grotius obſolete by language of ſuperiour purity and more ſkilful management of his arguments.—If he had borne the croſs as a feceding miniſter, he muſt have led a life of the ſtricteſt temperance; ſince in Scotland the clergy, even of the eſta-

bliſhed

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bliſhed church, cannot ſafely indulge in open diſſipation. I need not therefore explain how much leiſure he would have had for his claſſical and theological purſuits. Nor would he have enjoyed fewer or leſs lively ſenſations of pleaſure than a different courſe procured him; for to a perſon of his temperament, fame and fanaticiſm may well ſupply the place of wine.

He continued at the grammar ſchool till he had nearly attained the age of twenty. In the ſummer of 1755, his reputation, as a ſcholar, procured him the appointment of tutor in a family of ſome diſtinction in the neighbourhood of Dunſe. But here, it ſeems, he did not long continue to be an agreeable inmate. It is likely enough that he had added the ſtiffneſs of pedantry to the ſourneſs of bigotry. But I have no information concerning his deportment; and ſhould any of his diſciples think a fuller narrative due to their maſter's memory, ſome notices may, I conceive, ſtill be collected from the ſurviving members of the family.

When deprived of this employment, he repaired to the univerſity of Edinburgh. In this

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this buſy ſeat of ſcience, after going through the uſual courſe of philoſophy, he regularly entered upon his theological ſtudies: he attended the lectures, diligently applied to the peruſal of the authors recommended by the profeſſor, and proceeded ſo far as to deliver in the public hall a diſcourſe upon a preſcribed portion of Scripture: which is an academical exerciſe previous to ordination as a clergyman of the Scotch eſtabliſhment. At this point he ſtopped, and relinquiſhed the profeſſion of divinity altogether. The ſequel will ſufficiently explain his motives for this change. Its immediate conſequence was his retreat from Edinburgh to Dunſe. Here, to gain time, as may be ſuppoſed, for arranging the plan of his future life, he engaged himſelf as uſher to the ſchool which he had lately quitted. In this capacity he officiated from Martinmas 1758 to Martinmas 1759. Mr. WAIT, who profeſſes himſelf to have benefited by the new uſher's inſtructions, mentions, as a proof of the accuracy of his memory, that after once reading over the leſſon, conſiſting of two octavo pages in Latin, he would lay aſide the book and *prelect*

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left the whole over, without miſtaking a ſingle word. In the courſe of this year, one of the claſſes in the high ſchool at Edinburgh becoming vacant, Brown appeared as a candidate, but, "on a comparative trial, "proved unſucceſsful."

While he remained at Dunſe, it was remarked that the ſtrictneſs of his religious principles was relaxed. He even began to be accounted licentious both in his principles and conduct. At a later period he was open enough in his avowal of irreligion.—Whatever ſcope the fact may afford to the eloquence of perſons, accuſtomed to decry Edinburgh as a ſchool where the reaſon of young men is exerciſed more than their faith, it ſeems too evident to be denied, that this revolution of opinion in our ſtudent of theology took place during his reſidence there. The diſtinguiſhing portion of his hereditary creed he had abjured from pique; nor can he be ſuppoſed to have had any rational conviction of the remaining articles; if rational conviction can only originate in ſincere doubt and perfect careleſſneſs in regard to the concluſion to which examination may lead.

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lead. Under ſuch circumſtances it is eaſy to conceive by what a precarious tenure a ſpeculative ſtudent, placed in a ſituation where information is at hand and inquiry not only free but faſhionable, holds the benefit derived from the religious leſſons of his parents and preceptors. Some unlucky ſuggeſtion may ſtart a perplexing ſcruple, the ſerious inveſtigation of this ſcruple may raiſe an hoſt of difficulties, and deliberation terminate in unbelief.

At the time he renounced divinity, the ſcene before him muſt have directed his thoughts to the ſtudy of medicine. The only difficulty lay in the expence: but his obſervations might have ſuggeſted the means of overcoming this difficulty, independently of the encouraging circumſtance which I ſhall immediately relate. He muſt have been aware that ſtudents of phyſic are, in general, by no means ſuch proficients in claſſical acquirements as to ſpeak Latin with tolerable fluency. Hence, before the examinations for a doctor's degree, which are carried on in Latin, it is common to have recourſe to a private inſtructor, who converſes with the candidate

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candidate in that language. This preparation is familiarly called *grinding*, as a ſimilar proceſs at Cambridge is, I think, called *cramming*. The tranſlation of inaugural diſſertations into Latin, which the ſtudents, in moſt inſtances, compoſe for themſelves in Engliſh, is another occupation from which a good ſcholar may derive emolument at Edinburgh; the ordinary gratuity for a tranſlation being five, and for an original compoſition, where that is required, ten guineas.

Of his qualifications for theſe employments, accident, ſhortly after his unſucceſsful competition for the vacancy in the High ſchool, furniſhed him with an agreeable proof. Application being made to one of his friends to recommend a perſon to turn a theſis into Latin, Mr. Brown was mentioned. He performed the taſk in a manner that exceeded the expectations both of the friend and the candidate. When it was obſerved how much he had excelled the ordinary ſtyle of ſuch compoſitions, he ſaid *he had now diſcovered his ſtrength, and was ambitious of riding in his own carriage as a phyſician.* Towards the cloſe of 1759, therefore, he ſet-

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tled at Edinburgh in the double capacity of teacher and ſtudent. At the opening of the ſeſſion, he addreſſed a Latin letter to each of the medical profeſſors. They were perhaps already apprized of his merit as a claſſical ſcholar; and they were all induced by his application to preſent him with a ticket of admiſſion to their lectures. After ſo auſpicious a beginning, he ſoon became famous as a teacher of Latin; and I believe he never afterwards refuſed to exerciſe his pen in the tranſlation of theſes. He was alſo at all times ready to furniſh an original diſſertation according to the ſyſtem his employer preferred.

I have obtained no particular information concerning the firſt four years of his medical ſtudies. His circumſtances were probably more flouriſhing than at any former period. From the beginning of the maſterly preface to his Elements it appears that he proſecuted his ſtudies with his characteriſtic ardour. In 1763, an old acquaintance found him in as high repute among his fellow-ſtudents as he had formerly been among his ſchool-fellows —a diſtinction which has never been obtained without

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without the conjunction of ability with induſtry. He ſeems, however, during the intervals of his application, to have given into the moſt dangerous of vices; "for the lan-"guor of his appearance ſeemed to ſhow "that he had taken liberties with a conſti-"tution originally firm and vigorous."

In certain univerſities, deſtitute of foundations or yearly ſtipends for ſcholars, the ſtudents live diſperſed in ordinary dwelling-houſes: and this diſperſion, according to my obſervation, is not leſs favourable to diligence and regularity than reſidence in colleges. In mixed company the vicious propenſities, peculiar to any claſs of individuals, will never be countenanced; or, in the language of Dr. Adam Smith, a whole company can never ſympathize in thoſe unbecoming practices, to which a few only feel themſelves inclined. By this mutual correction, the aſſociation of perſons of different ages and ſexes becomes the great preſervative of good manners and good morals. Colleges, which, after the example of monaſteries, ſeem inſtituted on purpoſe to prevent this ſalutary variety, doubtleſs give frequent occaſions to emulation in

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thoſe exceſſes, to which young men are particularly prone. A nice obſerver, too, may perhaps diſcover that their monaſtic diſcipline irritates full as much as it reſtrains. At Edinburgh the keepers of lodging and boarding houſes have generally ſober habits; and the obſervance of early hours is enforced with as much effect, though with leſs form, than by the porter's liſt, the fine, and *impoſition*. As far as diſcipline regards learning, every man muſt eſtimate its value by his opinion of the effect to be produced by ſetting grown gentlemen taſks. Where there have exiſted none of thoſe reſtraints, which always give more or leſs diſguſt, I have ſeen a large majority of ſtudents purſuing knowledge with as great cagerneſs as any of their equals in age were elſewhere purſuing the pleaſures of the chace; and from the ſame motive—the immediate ſatisfaction it affords. Nor do I believe that the acquiſition of knowledge can be otherwiſe than agreeable, except from the fault of the tutor or the inſtitution.—If examinations are conſidered as powerful incentives to diligence, none can equal in ſeverity thoſe which are carried on at the voluntary meetings, which

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which it has long been the cuſtom to hold at the great ſchool of medicine in Scotland, and which have ſince been eſtabliſhed among the ſtudents at the inns of court in London, with the approbation of the moſt diſtinguiſhed profeſſors of the law.

Brown, who now ſeems to have ſupported himſelf in affluence as a ſingle man, perceived in the eſtabliſhment of a boarding-houſe for ſtudents, a reſource which would enable him to maintain a family. His reputation for various attainments was, he thought, likely to draw round him a number ſufficient to fill a large houſe. With this proſpect he married in 1765; and his ſucceſs anſwered his expectations. His houſe was ſoon filled with reſpectable boarders. But he lived too ſplendidly for his means, and "managed ſo "ill that in two or three years he became "bankrupt. Towards the end of 1770, "though reduced in his circumſtances, he "maintained the independence of his cha-"racter, proving himſelf to be, in the lan-"guage of his favourite Horace,

——*Satis inter vilia fortis.*

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" He ſeemed to be happy in his family, and, " as far as I could ever obſerve, acquitted " himſelf affectionately as an huſband and a " parent. He ſtill frequented the medical " claſſes," (or lectures); " and I heard him " ſay he had now attended them ten or ele- " ven years." [Mr. WAIT].

We have ſeen how liberally Brown was treated on his entrance upon the ſtudy of medicine. From the celebrated Cullen he early received the moſt flattering marks of attention. This ſpeculatiſt, like Boerhaave and other men of genius in the ſame ſtation, was accuſtomed to watch the fluctuating body of ſtudents with a vigilant eye, and to ſeek the acquaintance of the moſt promiſing. There was a period when he made the greateſt exertions to gain proſelytes to his opinions; and his mind was doubtleſs alive to that pleaſure which the encouragement of merit affords to all who are capable of diſcerning it, when no dread of rivalſhip interferes with the gratification. But Brown's power over the Latin language ſerved him as a peculiar recommendation; and his circumſtances might induce Cullen to believe that

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that he could render this talent permanently uſeful to himſelf. Taking therefore its poſſeſſor "under his immediate patronage," he gave him employment as a private inſtructor in his own family, and ſpared no pains in recommending him to others. A very ſtrict and confidential intimacy enſued. The favoured pupil was at length permitted to give an evening lecture, in which he repeated, and perhaps illuſtrated, the morning lecture of the profeſſor; for which purpoſe he was intruſted with Cullen's own notes. Though Mr. Wait had not recollected the profuſe encomiums of his old ſchoolfellow, his warmth of attachment would be fully teſtified by ſubſiſting tokens; to his eldeſt ſon, for inſtance (WILLIAM CULLEN BROWN) were given both the chriſtian-name and ſirname of his patron. Other proofs of mutual confidence and eſteem might be collected: but friendſhips originating in protection are very prone to terminate in enmity, unleſs difference of rank and purſuits totally preclude competition; and it is well known that the friendſhip in queſtion was far from permanent. My materials do not furniſh diſtinct

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information concerning the cauſe or pretext of an alienation, which was certainly injurious to the dependant party, and perhaps detrimental to ſociety. In a communication from Dr. S——, likewiſe an old and intimate acquaintance of Brown, it is ſaid, that after the failure of his boarding-houſe, he "became impatient, and unfortunately quar-"relled with Dr. Cullen, from a ſuppoſition "that the doctor had it in his power to ex-"tricate him from embarraſſment by placing "him in a more liberal and lucrative ſitua-"tion in the medical line." A report I remember to have heard at Edinburgh coincides with this intimation; but I relate it only on the authority of rumour. When the theoretical chair of medicine became vacant either on the death of Dr. Alexander Monro Drummond, or the refuſal of this promiſing young phyſician to fill it, Brown gave in his name as a candidate. On a former occaſion of a nature ſomewhat ſimilar, he had diſdained to avail himſelf of recommendation, which he might have obtained with eaſe; and though, according to the friend whoſe words I have juſt quoted, he acquitted himſelf

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ſelf in a manner far ſuperiour to the other candidates, private intereſt then prevailed over the juſter pretenſions of merit. At the preſent competition he was alſo without recommendation; and, I ſuppoſe, could have obtained none. Such was his ſimplicity, that he ſeems to have conceived nothing beyond pre-eminent qualifications neceſſary to ſucceſs; nor did he harbour any ſuſpicion of that debaſing ſyſtem of influence, which has infected the land ſo thoroughly, that the poſt of a ſcavenger, were it held by appointment, would hardly be procured without cabal, or retained without ſervility.—The magiſtrates of Edinburgh appoint profeſſors to the college, as well as maſters to the ſchool. They are reported deridingly to have inquired who this unknown and unfriended candidate was; and Cullen, on being ſhown the name, after ſome real or affected heſitation, is ſaid to have exclaimed in the vulgar dialect of the country—*Why, ſure, this can never be our Jock!* With this ſneer the application of a man was ſet aſide, whoſe equal the patrons of the Edinburgh profeſſorſhips will probably not

not ſoon have an opportunity of rejecting. Though this account ſhould come near the truth, it does not follow that the municipal board deſerves much cenſure. In the execution of their truſt they are indeed bound to examine the pretenſions of the competitors, or rather to caſt their eyes round wherever the Engliſh language is ſpoken, and ſelect the perſon beſt qualified for the office, even if he ſhould not enter the liſts of competition. But they had not our means of deciding; and although he, who enjoyed ſo high a reputation among his fellows, and to whom Cullen partly committed the credit of his ſyſtem, could not well be deemed a contemptible candidate, there did not perhaps exiſt reaſons to warrant them in raiſing him to the vacant chair. Public fame ſeems the ſureſt guide for ſuch electors; and the reputation, ſo long enjoyed by the Univerſity of Edinburgh, proves that it is a guide ſufficiently ſure. The danger is, leſt its patrons, relying upon the eſtabliſhed credit of the ſeminary, ſhould at any time ſuffer intrigue to interfere with their choice. In this caſe a ſplendid college may indeed be erected, but ſtudents from different regions

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regions of the globe will ſoon ceaſe to crowd its halls.

Whether ſuch a ſarcaſm was uttered or not, Cullen (*b*) completely eſtranged the mind of his Latin ſecretary on a ſubſequent occaſion. As I am not ſufficiently acquainted with the particulars, I cannot venture to appreciate his conduct; but the mortal affront was given, when Brown attempted to gain admiſſion into that philoſophical ſociety which publiſhed the Edinburgh Eſſays. After this tranſaction, an open rupture took place; but, however it aroſe, the account furniſhed, if not written, by Brown, evinces that both parties had before conceived a ſecret jealouſy of each other: the account is as follows: "There is a junto "of men in Edinburgh who at all times, from "fear of his" (Brown's) "learning and abi- "lities, have been his determined enemies; "and by all arts, but good ones, have uni- "formly fought his ruin, and that of a large "and innocent family depending upon him. "This conduct, firſt of all, was the return they

(*b*) Jones's Enquiry into the State of Medicine, 1781, p. 358.

"made

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" made him for great ſervices done to them
" as a body, and to certain individuals of
" them as friends. Their open conduct to
" him was friendly; their ſecret a plot, a
" dark Catalinian conſpiracy. Accordingly,
" his ſuſpicion of it was late, the full de-
" tection later..... He choſe to tear off the
" maſk of their pretended friendſhip.....
" His firſt ſtep was to make application for
" being made a member of a certain literary
" ſociety, to which no man's petition had
" ever been rejected before, or ſince: fore-
" ſeeing that he would be rejected. This
" accordingly happened. But he was pre-
" viouſly adviſed by one of themſelves, as a
" friend, to withdraw his letter of application.
" A frivolous and falſe cauſe was aſſigned
" for the oppoſition. The friendly monitor
" who had perceived that our author had a
" new doctrine of medicine in meditation,
" began, as it would appear, to fear that it
" might terminate in the extinction of one
" which he aſſumes as his own. He was
" therefore the prime mover of the plot....
" The anſwer was, in a tone of firmneſs,
" that the application would not be with-
" drawn...

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" drawn....and that the applier" was resolved to make the present conduct of the adviser and his friends " the criterion of " his judgment of their intentions towards " him." The *body* must mean the college of physicians; the *services* I presume to have been the translation of their Pharmacopœia into Latin, and the *plotter* unquestionably was Cullen. After the failure of this bold experiment upon the strength of his credit, the projector had evidently no time to lose in seeking some fresh resource for the support of his family. The following notice from Dr. S—— applies to this part of his history.

" Being estranged from Dr. Cullen's " family, he gradually became his greatest " enemy, and shortly afterwards found out " the new theory of physic, which gave " occasion to his publishing the *Elementa* " *Medicinæ*, in the preface to which work " he gives an account of the accident that " led to this discovery. The approbation " his work met with among his friends " encouraged him to give lectures upon his " system.

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" ſyſtem. Though his lectures were not " very numerouſly attended by the ſtudents, " on account of their dependence upon the " profeſſors, ſtill it was always remarked " that the cleverest among them were all, " as they were now called by way of nick- " name, BRUNONIANS. Hence aroſe that " perſecution which was carried on with " ſuch rancour that it at length obliged him " to leave Edinburgh." This account of the origin of the Brunonian ſyſtem, as we may conclude from the preceding quotation, is not exact; and in other particulars the ſtatement, from evidence I ſhall afterwards produce, will appear overcharged. Meanwhile, if it be undeniable that, as the Cullenian hypotheſes were ſinking into diſrepute, many of the ableſt ſtudents reſorted to the ſtandard of Brown, it ought not to be forgotten that it was joined alſo by the moſt idle and diſſolute. Their miſconduct and their maſter's imprudence in private life, together with the offenſive manner in which he ſpoke of himſelf and of others, kept the ſyſtem and the author in conſtant diſcredit.

He

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He was soon in a state of open hostility with all the medical teachers at Edinburgh; and it required nicer management than he could observe to keep on fair terms with other practitioners of medicine. To a disciple, who was desirous that he should meet one of the professors in consultation, he remarked, "that he (the disciple) was unacquainted with the interested arts of those men; that all their ideas in medicine, and particularly in its practical part, were so diametrically opposite to his, that they never could be brought to any sort of reconciliation."—Like other reformers, who have had to wrestle with powerful opposition, he committed and sustained injustice. Like them too, where his system was concerned, he gradually lost his sense of equity. If we judge by his language—the only way he had to show his disposition—his countryman Knox could scarcely have exceeded him in ferocity. Thus, having remarked that the doctrine of spasm, suggested by Van Helmont, and clumsily wrought up into a system by Hoffmann, was banished by Boerhaave from the country which gave it birth, "it found at last," he adds,

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adds, " amidſt a new perſecution raiſed " againſt it by the pupils of Boerhaave— " then in poſſeſſion of the medical chairs " at Edinburgh—a friend and protector in " Dr. Cullen, who had lately become one " of the number of thoſe profeſſors.

" This brat," he proceeds, " the feeble, " half-vital, ſemi-production of phrenzy, " the ſtarveling of ſtrained ſyſtematic dull- " neſs, the forlorn outcaſt of the foſtering " care to which it owed its inſect vitality, " was now to be pampered by a crude and " indigeſtible nutriture, collected from all " the materials which had compoſed the " ſeveral fabrications of former erroneous " ſyſtems, was to be decorated with every " foreign plumage, and in this its totally " borrowed and heterogeneous form, inſtead " of the hideous caricatura, which it was, " contrived to excite the deriſion of man- " kind, it was to be oſtentatiouſly obtruded " upon the world as a new, and reſpectable " doctrine, and held up, forſooth, as the " formidable rival of a ſplendid ſyſtem (*c*)."

(*c*) Obſervations on the old Syſtems of Phyſic, 1787, p. xxxi.

Such

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Such is the torrent of metaphors that ruſhes upon his imagination when he thinks of the ſyſtem of his ancient friend and maſter. Of the paſt and preſent condition of the healing art he ſpeaks with greater coolneſs, but with equal contempt:

" The accompliſhments of the regulars " have been learning and ingenuity in a few, " not directed to improvement in their own " profeſſion: a mere ſhadow of learning, or " the ſtudy of a bad kind of it, as botany " and the other branches of natural hiſtory, " in the greateſt number; ſly attention to " reputation for ſkill; intriguing with their " brethren for countenance; oppoſition to " improvement; perſecution of diſcovery; " narrowneſs of mind under the thin veil of " a falſe pretention to liberality; affectation " of decency; all for the purpoſes of trade; " ſilence, from a conſciouſneſs of inabi- " lity to ſpeak ſo as to gain by it; formality, " pomp, ſtatelineſs, gravity, all making a " motley group of abſurdities; invincible at- " tachment to the errors of their educa- " tion; averſion to improvement; ready

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" upon every ſlight occaſion to break out
" into rage and tranſport; invincible bigotry
" and prejudice; an over value of what
" learning they have any pretenſions to; an
" under value of all they are conſcious they
" want.

" As every country, in proportion as it is
" diſtinguiſhed by riches, and openneſs of
" manners, for that very reaſon, becomes the
" emporium, the ſcene of action, for high-
" waymen, footpads, pickpockets, ſwindlers,
" ſharpers, gipſies, regular practitioners in
" law and phyſic, quacks in both profeſſions;
" ſo England has long held and ſtill holds
" the pre-eminence over all her neighbour
" countries, in being, for the reaſon aſſigned,
" the place of common reſort, in which a
" comfortable ſubſiſtence is afforded to all
" thoſe different denominations of purſe-
" takers.

" *Exilis domus eſt, ubi non et multa ſuperſunt*
" *Et fallunt dominos, et proſunt furibus.*"(c)

(c) Obſervations, pp. lxxxi—111.

During

During the heat of contention between the oppoſers and defenders of the new ſyſtem, an event happened which I wiſh I could fairly paſs over in ſilence. But as it has already been the ſubject of more than one publication (*d*), there can be no pretence for the omiſſion.

Mr. Iſaacſon, a ſtudent of medicine, had been ſeized with a fever, which in its progreſs exhibited the moſt alarming ſymptoms. Dr. Duncan was firſt called in, and afterwards Dr. Monro. Dr. Robert Jones, a new graduate, and a friend to Mr. Iſaacſon, tampered with the nurſe to induce her ſecretly to adminiſter ſtrong ſtimulant medicines: they were given, as he aſſerts, for about twenty-four hours, with ſuch effect that, on their next viſit, the phyſicians "declared the pa-"tient free of fever," though before he had all the ſymptoms of approaching death. In the afternoon, however, of the ſame day, he

(*d*) See Jones's Enquiry, p. p. 134—150.—Letter to Dr. R. Jones, by Andrew Duncan, M. D. Cadell, 1782. —Letter from Philalethes to Dr. Andrew Duncan, without date or title, announcing a reply to the former publication, which, I believe, never appeared.

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was seized with a raging delirium. Jones in his alarm applied to his preceptor; the preceptor being told that the nurse desired to see him, ordered "her to be brought before him." When she was brought before him, he complimented her by a solemn appeal to her understanding concerning the great principles of his system. "He endeavoured to assure her "that there was either no inflammation in "the case at all, or that it was a very dif-"ferent affection from the inflammation that "physicians were acquainted with; that in-"stead of requiring bleeding and other eva-"cuant antiphlogistic means, it required the "very same treatment which had been last "employed; and he asserted with confidence "that the intermission of the stimulant powers "through the day was the cause of all that "had happened; that, in short, the present "affection was a disease of debility of the "whole system, predominant in the brain, "in consequence of the great sinking of "strength which constantly follows a total "cessation of the use of such highly stimu-"lant powers. He begged therefore as the "life of a fellow-creature was at stake, and

"as

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"as ſhe had been ſo late a witneſs of the good "effects reſulting from the method of cure, "the continuance of which he ſtill recom- "mended that ſhe would not allow pre- "judice and impreſſions from the falſe theo- "ries of phyſicians, among whom ſhe had "been converſant, to prevail over the high "probability of ſucceſs from this mode of "cure. He diſmiſſed her, after obtaining a "promiſe that ſhe would continue the plan "of cure in queſtion (*e*)."

Brown, for a comic figure, was not inferior to Sancho Panza; nor indeed much unlike that entertaining perſonage: and this clandeſtine conference, if it had been delineated by Cervantes, would have made a good companion for the nocturnal interview between Don Quixote and the venerable duenna, Donna Rodriguez.

The patient, thanks be to fortune, ſkill, or virtue! recovered. The Brunonians placed the cure to the credit of their practice, which they reported to have been ſucceſsful after Dr. Duncan and Dr. Monro had given the

(*e*) Jones, p. 136.

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patient over; they publiſhed the caſe; they aſſerted that the cure "gave great vexation "to the attendant phyſicians and all their "partizans;" and with the policy uſual among aggreſſors, they complained that Dr. Brown was ill-treated, becauſe he was blamed in "the numerous circles of the phyſicians' "friends and his enemies, while no opportu- "nity was offered him of vindicating him- "ſelf from theſe charges."

The nurſe had threatened, if the ſecret proceedings ſhould tranſpire, to deny the performance of her part of what in the *Enquiry* is termed the *paction*. Dr. Duncan, rouſed by theſe rumours, applied for information to the nurſe and her aſſiſtant, to Mr. Iſaacſon himſelf, to the miſtreſs of the houſe where he lodged, to Mr. Edmund Goodwin, and Dr. Monro. In his letter he has publiſhed their reſpective atteſtations and depoſitions upon oath; it appears that the clandeſtine propoſals were rejected, and that only one unſucceſsful attempt was made by the negociator himſelf to adminiſter a doſe of his diffuſible ſtimulants. According to the nurſe's teſtimony, Mr. Jones on

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on her firſt refuſal declared, if ſhe "would "do as he deſired her, Mr. Iſaacſon would "give her a handſome reward when he re- "covered—that the medicine he wiſhed "her to adminiſter was a bottle of double "rum, of which ſhe was to give him a glaſs- "ful, with fifty drops of laudanum in it, the "firſt night; and another glaſsful, with one "hundred drops of laudanum in it, the ſecond "night, if the firſt doſe ſhould have a good "effect. To this propoſal ſhe anſwered, "that if ſuch medicines were adminiſtered "to Mr. Iſaacſon in the ſtate in which he "then was, he would not recover to reward "either her or Mr. Jones. To which he "replied, that ſhe was a damned fool for "refuſing, and that he would give her two "guineas out of his own pocket if ſhe would "do it. She ſaid, that if the beſt graduate "in Edinburgh would give her her apron "full of gold, ſhe would not." This woman depoſed moreover that one evening, while ſhe was employed apart, ſhe heard Mr. Iſaac- ſon ſuddenly cry out, "Good God, what is "this? It is laudanum! I am poiſoned!" She then obſerved Mr. Jones by the bedſide

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with a tea-cup, containing ſome liquor, in his hand, which he ſet down on the table, requeſting the landlady to give it to Mr. Iſaacſon at a proper opportunity. The landlady aſſerts, that, late one evening, ſhe ſaw Mr. Jones drop one hundred drops of laudanum into a tea-cup, and add ſome wine, which he immediately carried into Mr. Iſaacſon's room. She followed him: he endeavoured to make Mr. Iſaacſon, who was ſo far delirious that he did not appear to know Mr. Jones, ſwallow the contents; "on taſting the medicine, he "ſpit it out of his mouth; cried out that it "was laudanum, and that he was poiſoned; "but to the beſt of her obſervation, he did "not ſwallow any of the medicine;" which, ſoon after, was thrown into the fire.

The interview, which the nurſe herſelf vows, that ſhe held with Dr. Brown at his houſe, may caſt ſome ſuſpicion on her integrity. But ſhe might have been thoughtleſs; or, though determined to reject his ſuit, ſhe might have been pleaſed with being ſolicited as arbitreſs between contending ſyſtems. The reſt of the evidence is alſo conſiſtent with her teſtimony.

Dr.

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Dr. Duncan's indignation urged him to an immediate proſecution, which, as he was aſſured by ſome eminent advocates, would have terminated in the infliction of a ſevere puniſhment on the negociator. Dr. Monro diſcouraged this idea for reaſons which it would be injurious not to quote; they are thus aſſigned in the letter to Dr. Jones: "He was princi-" pally averſe to it on your account, becauſe he " conſidered you in the light of an imprudent " young man—he imagined that the mal-" practices might be ſufficiently proved of " you, although they could not be brought " home to Dr. Brown, whom he conſidered " as the original aggreſſor. He was averſe " to it on account of Dr. Brown's wife and " infant children, who might have ſuffered " more ſeverely by it than we could eaſily " foreſee. And beſides this, he thought there " was but little danger that Dr. Brown ſhould " repeat ſuch practices, and ſtill leſs chance " that he would again find any ſtudent to be his " aſſiſtant in the manner that you had been." In theſe reaſons Dr. Duncan acquieſced.

By this intrigue Dr. Brown's "character " was very near ruined as a phyſician, and " as a man (*Enquiry*, p. 139)." All chance of

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of lucrative employment in his profeſſion, if he ever had any, was deſtroyed. His character among his countrymen ſuffered irretrievably; nor have I courage without better documents to undertake his vindication. Dr. Duncan aſſures me, that he knows of no reply to his letter; and little ſatisfaction I apprehend will be found in the pleas offered by the *Enquirer* and *Philalethes*. If the means of eraſing this blot remain, I hope they will be employed without delay. I ſhall be glad to have ſolicited, where I could not aſcertain the truth. But "the deſire of reſcuing a "fellow-creature," will never be admitted by the public as a juſtification of the clandeſtine interference of any man, much leſs of a phyſician, in the treatment of the ſick. Such motives may be cheaply feigned; and, when real, they may occaſion endleſs miſchief.

Things and perſons are generally eſtimated in the groſs; and this unwelcome portion of my narrative, I fear, will raiſe in many minds a prejudice fatal to the credit of the following ſyſtem. Juſt and judicious readers will, however, diſcriminate. And if, in the caſe of Bacon, the baſeneſs of the magiſtrate detracts not from the wiſdom of the philoſopher,

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philoſopher, why ſhould the imprudent or unjuſtifiable means which Brown adopted to carry his principles into practice, influence our opinion concerning the juſtneſs of thoſe principles?

He ſometimes diſcovered the propenſity, ſo common among the framers of ſyſtems, in a leſs offenſive way.

A ſtudent of medicine died of a low fever in ſpite of the full and avowed uſe of diffuſible ſtimulants. The body was opened; ſeveral perſons were preſent; among others the gentleman that informed me of the occurrence. During the examination of the appearances, Brown with an air of great ſagacity remarked that the body was unuſually freſh. The diſſecting ſurgeon, whom perhaps kindred devotion to Bacchus had inſpired with tenderneſs for the Doctor, replied that, conſidering the circumſtances, he had ſcarce ſeen an inſtance where putrefaction had made ſuch little progreſs. "Then, gentlemen," rejoined the doctor, "I appeal to you if we may not conſider "this as a clear proof of the propriety of "our practice."

Brown

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Brown was elected president of the Medical Society in 1776 and again in 1780. In what years he became a lecturer and graduate in medicine, I must leave to some future biographer to settle. Though he had attended the medical classes at Edinburgh ten or eleven sessions [Mr. WAIT], he resorted to St. Andrews for a Doctor's degree. His pupils, I believe, following in his train, strove to give to his passage the air of a triumphal progress; he was certainly accustomed to relate with infinite satisfaction the circumstances attending his graduation. He described the professors beyond the Firth as overawed by his fame and presence; it is likely enough that they wished to exchange their diploma for his money with as much expedition as possible.

For several years after 1780, and perhaps before, the professors, the physicians to the infirmary, and the societies were unceasingly annoyed by the adherents of Brown; the students' debates were carried to the highest pitch of violence; by the Medical Society a law was passed, and, I think, put in force, that if any member should challenge another for any

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any thing ſaid in debate, he ſhould incur the penalty of expulſion.

The efforts of the Brunonians to expoſe thoſe practitioners, who followed a different ſyſtem, are fully exemplified in *a Letter on the management of patients in the Royal Infirmary* (*g*). This letter was occaſioned by a reſtriction annexed to the allowance of a very thin beef-ſtake to a patient in that hoſpital. It was expreſsly ordered that the ſtake ſhould not exceed one inch and five ſixteenths in length, nor ſeven eighths of an inch in breadth. This, at leaſt, is the meaſure of the pattern (*b*). The tone, aſſumed in the commentary upon this text, is that of vehement invective: on the authority, as the writer ſays, "of one of your own ſtudents" he gives the following ſtatement of the hoſpital diet:

"*The Common Fare.*

"*Soldiers pay 2s. 4d. per week.*

"Breakfaſt—One roll of bread and a meaſure of milk or "beer.

"Dinner—One ditto, and a choppin of weak broth.

"Supper—The ſame as breakfaſt.

(*g*). Edinburgh, 1782, pp. 32. Signed *Veri Amicus.*

(*b*). Letter, p. 9.

Common

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Common Patients.

" Breakfaſt—Half a roll, and a meaſure of milk or beer.
" Dinner—One roll, and a choppin of weak broth.
" Supper—The ſame as breakfaſt.

" In a few particular caſes, a little meat is " allowed and other neceſſaries, as may ap- " pear proper to the phyſician."

He then notices the roaſt beef and porter of St. George's hoſpital in London, and ſubjoins this appeal: " Let me figure the " caſe that you, Doctor, were plunged at once " into diſeaſe and beggary; I put this plain " queſtion, whether would you chooſe to " be lodged and nurſed in St. George's hoſ- " pital, or to be depoſited and ſtarved in the " Royal Infirmary, under ſuch medical treat- " ment as your own? Your victuals," he proceeds, " are not only ſcanty but bad. " Your porridge is ſometimes boiled almoſt " into water-gruel; your broth is commonly " much better qualified to operate as an eme- " tic than to nouriſh the ſyſtem—of your " milk we need only ſay that it reſembles " the reſt which is ſold in the ſtreets of Edin- " burgh. Your beer is not always tolerable " even to the palate of an alehouſe ſcullion,"

None

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None undoubtedly but members of the medical profeſſion, can have an adequate conception of the wide-waſting miſery that daily ariſes from want of food, fuel and cloathing. Occaſionally, in diſtreſsful ſeaſons, the gnawing pains of hunger are aſſuaged by private charity; and impending death or madneſs is prevented. But no effort is made to improve the predominant condition of the poor, though it is alike deſtitute of comfort and of hope. Experience teaches how little they have to expect from thoſe POLITICAL SWINDLERS, who, under falſe pretences, acquire the power of ſporting with the wealth and blood of nations. The wretchedneſs of impriſoned criminals remained unredreſſed only becauſe it was indiſtinctly known; the wretchedneſs of the indigent is not more clearly underſtood; to expoſe it fully to the eyes of the community is a work of extenſive beneficence reſerved for ſome future HOWARD. When it is atchieved we ſhall be aſtoniſhed at the proportion of human beings that languiſh in miſery or periſh prematurely; the univerſal feelings of mankind will riſe in behalf of theſe victims of penury; and their fleſh will

no

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no longer be devoured by the luxurious creatures of corruption. But our Brunonian "friend to truth," ſeems to work upon the compaſſion of his reader, merely for the purpoſe of degrading a few profeſſors in the opinion of a ſet of ſtudents. If his letter contains material exaggerations, it could only ſerve to bring the cauſe of humanity into diſrepute.

In 1782 I remember to have ſpent an evening in company with Dr. Brown. He aſſumed the ſovereignty of the circle, which conſiſted principally of his diſciples; and nobody thought of diſputing his title; he diſplayed uncommon vigour of imagination, but to me the figures he called up were ſo little agreeable, that I never deſired his converſation a ſecond time. Others received entertainment; and by thoſe who knew him well, he is remembered as "the beſt com-"panion in the world." His Doric dialect had nothing prepoſſeſſing to an Engliſh ear. It was ſo broad as to leave me often uncertain of what he ſaid even in his lectures. And yet before he undertook the charge of a private tutor, he had attended an Engliſh maſter at Edinburgh, "for

"the

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"the purpoſe of acquiring a proper pronun-
"ciation and method of teaching that lan-
"guage, which he had not before had an op-
"portunity of being improved in" [D. S.]. But the *veſtigia ruris* were not to be effaced, or elſe he had voluntarily reſumed his original notes.

Unprofitable adherence to the houſe of STUART, had been relinquiſhed at Oxford before my entrance: and Brown was the firſt perſon I ever ſaw abſurd enough to profeſs himſelf a Jacobite. He had ſeveral years ſince embraced political ſentiments thus repugnant to thoſe he once held, and which had now become almoſt univerſally extinct. In 1770, "I was ſurprized," ſays a gentleman who had known him long, "to find the Doctor "a warm admirer of the Scottiſh ariſtocracy: "the lairds of Clanronald, Keppoch, and "Gengary, were the theme of his eulogy; "and prints of ſome of the chieftains who "had joined the late Pretender were placed "among the divinities of his houſehold." No cauſe for ſuch a revolution of opinion is aſſigned. It did not ariſe by analogy from his hoſtility to the profeſſors, for it took

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place before his rupture with Dr. Cullen. This ſpecies of ſuperſtition eaſily faſtens upon the mind of the antiquary; and Brown had paid attention to the antiquities of his country. He was elected aſſiſtant Latin ſecretary to the Antiquarian Society of Edinburgh, without his ſolicitation or knowledge, and from the ſole conſideration of his literature, according to the *Enquiry*; but this aſſertion is contradicted by Dr. Duncan. His contradiction is founded on Mr. Cummyng's declaration when he propoſed Brown, that "he knew him to be very deſirous of ob-"taining the appointment."

His converſation was full of contempt for the literature, talents, and doctrines of the medical profeſſors, one great natural philoſopher excepted. He continually criminated them as his perſecutors, and as unjuſt towards thoſe ſtudents who adopted his principles. This injuſtice is ſaid to have appeared in unuſual ſeverity on the examinations previous to *graduation*. In the *Enquiry* theſe complaints are repeated; and to ſhew how much the right of private judgment was infringed in the article of inaugural diſſertations,

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tions, the following correſpondence is produced: the candidate, it ſhould be premiſed, was deſirous of quoting the ſixty-ninth, ſeventieth, and ſeventy-firſt paragraphs from the *Elementa Medicinæ* in a theſis on epilepſy.

"SIR,

"A former experience of your civility "prevents my apologizing for troubling you "on the following occaſion, viz.

"From a ſtrict peruſal and attention to "my diſſertation, I find it neceſſary to ſolicit "your approbation of inſerting the quota-"tion I made from Dr. Brown's printed "book, to which you formerly objected.

"Amongſt many other reaſons, I will "ſubmit the two following to your conſi-"deration.

"1. That without it I am prevented from "ſaying what I *really believe*, to the manifeſt "injury of my diſſertation.

"2. That I am deprived of the liberty "other candidates have always enjoyed in "making quotations from any author; a "privilege too, which was *promiſed me by* "*Dr. Gregory*.

"As I wiſh to have my diſſertation printed

 "immedi-

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"immediately, your answer as soon as con-
"venient, would oblige

"Your humble Servant,

"J. WAINMAN."

The answer was as follows:

"SIR,

"I objected to your quotation, as I have
"often done to quotations made by other
"candidates, not that it contained the opinion
"of *this doctor*, or of *that professor*; but
"that it contained such jargon, as could not
"fail to disgrace the candidate, and of course
"the university, which gave sanction to its
"publication. As to the liberty you say,
"'candidates always enjoyed of making
"quotations from any author, right or
"wrong,' I never heard of it before, and *am*
"*determined* to give it *no quarter*, neither
"now nor hereafter."

(*Signed.*) ALEXANDER MONRO.

I must profess myself incapable of entering into these sentiments: and I suppose many readers will concur with me in regarding with contempt the *patch-work* of education; whether it consist of a specimen of penmanship,

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penmanſhip, retouched by the maſter for the honour of the ſchool, or an *inaugural ſpecimen*, garbled by the profeſſors for the honour of the Univerſity.

Obſerving the ſtudents of medicine frequently to ſeek initiation into the myſteries of free-maſonry, the author of the *New Doctrine* thought their youthful curioſity afforded him a chance of proſelytes. In 1784 he inſtituted a meeting of that fraternity, and entitled it, *The Lodge of the Roman Eagle*. The buſineſs was conducted in the Latin language, "which he ſpoke with the ſame "fluency and animation as he ſpoke Scotch. "I was much diverted," adds Dr. Macdonald, "by his ingenuity in turning into "Latin all the terms uſed in maſonry."

In unfolding his ſyſtem it was his practice firſt to tranſlate the text book, ſentence by ſentence; and then to expatiate upon the paſſage. For moſt of his pupils the tranſlation was a preliminary highly neceſſary; and he muſt have conſidered it as politic to combine literary with ſcientific inſtruction. The proſpect of this double advantage, might perhaps, from time to time, bring him a few additional hearers; but whatever was the abſolute or

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comparative merit of the theory he taught, his ſeats, I fear, were ſeldom crowded.

The introductory lecture, if my memory is accurate, was intended to impreſs upon his audience a ſenſe of the importance of the lecturer's diſcoveries; its effect was rather to render him ridiculous. The dread of pain and death eaſily perſuade us that improvements in medicine are more beneficial than in any other art; but when a man aſſerts the ſuperior utility of his diſcoveries to thoſe of Newton, he will with difficulty avoid the appearance of aſſerting the ſuperiority of his talents. The lecturer, in his cooler moments, would have been ſenſible that lofty claims produce only laughter or reſiſtance. But his imagination eaſily kindled; he was thrown off his guard, and he ſtrongly expreſſed what he fervently believed. He uſually proceeded to open his ſyſtem with animation; but he did not always perſevere with the ſame ſpirit. He was apt, as he advanced, to fail in punctuality of attendance. As the maſter's ardour abated, ſlackneſs ſtole upon the pupils; ſo that his courſes not very unfrequently, I believe, ſhared the fate of Butler's ſtory of the bear

and

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and fiddle. The numerous inaccuracies with which, in ſpite of the remonſtrances of his well-wiſhers, he ſuffered both editions of his *Elements* to paſs through the preſs evince his negligence in thoſe concerns which might be ſuppoſed to lie neareſt his heart.

His voice was in general hoarſe and almoſt croaking, but "when he became animated, "he had fine cadences and pleaſing tones, "which took off all the uncouthneſs of his "accent and his manner."

One of his pupils informs me that when he found himſelf languid, he ſometimes placed a bottle of whiſky in one hand, and a phial of laudanum on the other; and that, before he began his lecture, he would take forty or fifty drops of laudanum in a glaſs of whiſky; repeating the doſe four or five times during the lecture. Between the effects of theſe ſtimulants and voluntary exertion, he ſoon waxed warm, and by degrees his imagination was exalted into phrenzy.

The ſubjoined quotation ſhews that he ſometimes endeavoured to enforce his tenets in a manner not very uſual; conceiving it lay in his power to remove certain objections

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deducible " from the real or imagined in-
" flammation of the brain at the end of Ty-
" phus," and " from the inflammatory part
" of the gout," he called together a party of his confidential pupils.

" He had brought on a flight fit of the gout
" by unuſual exercife in walking. This was
" an opportunity for making an experiment
" which was to decide the whole controverſy.
" A perſon called for him before dinner,
" who was in a way of buſineſs that led him
" to drink in the morning; he expected a
" glaſs from him and was gratified. The
" Doctor for a reaſon that the reader muſt
" perceive, collected half a dozen of his prin-
" cipal pupils to dinner, and drank them till
" he only, in conſequence of what he had
" taken before, was conſiderably affected.
" He told them he had planned ſome degree
" of intoxication in order to explain many
" inflammations, which were univerſally un-
" derſtood to be accompanied with, or to de-
" pend upon, phlogiſtic diatheſis. Before
" the application of the ſtimulus we ſpeak
" of, he had not been able to put his inflamed
" foot to the ground, but had ſupported
" himſelf

"himself in any little motion that he chose "to make through the house, by his sound "extremity, assisted by the use of his staff; "but before he dismissed his company, he "recovered the perfect use of his affected "leg (*k*)."

A few words will describe the tenor of this unfortunate man's life, till his removal from Scotland. He was so reduced in his circumstances as to be committed to prison for debt, where his pupils attended his lectures. In the abuse of intoxicating liquors he observed no moderation. In 1775 Mr. Wait found him drinking water only. His situation, about that time, would have roused almost any man to a struggle with this destructive habit. His preface discloses the reason of his sobriety. Finding the gout return with severity, after some perseverance in this experiment of abstemiousness, he returned to the bottle, and never afterwards relinquished it.

His prospect of maintaining himself by teaching medicine at Edinburgh becoming every year worse; he at length carried into

(*k*) Enquiry, p. 134.

execution

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execution a design which he had long meditated, and to which he had received some encouragement. In 1786, therefore, he embarked for London, bearing in mind most probably, if he did not utter, Scipio's exclamation against the ingratitude of his country. Immediately on his arrival, an incident befel him which I have heard Mr. Murray, the bookseller of Fleet-street, relate in proof of his simplicity. The peculiarity of his appearance, as he moved along—a short square figure with an air of dignity, in a black suit which heightened the scarlet of his cheeks and nose—fixed the attention of some *gentlemen* in the street. They addressed him in the dialect of his country; his heart, heavy as it must have been from the precariousness of his situation, and distance from his accustomed haunts, expanded at these agreeable sounds. A conversation ensued, and the parties, by common consent, adjourned to a tavern. Here the stranger was kindly welcomed to town; and after the glass had circulated for a time, something was proposed by way of sober amusement—a game at cards, or whatever the Doctor might prefer. The

Doctor

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Doctor had been too civilly treated to demur, but his purſe was ſcantily furniſhed, and it was neceſſary to quit his new friends in ſearch of a ſupply. Mr. Murray was the perſon to whom he had recourſe; the reader will not wonder that his interference ſhould have ſpoiled the adventure.

A London ſharper of another denomination afterwards tried to make advantage by the Doctor. This was an ingenious ſpeculator in *public* medicines. He thought a compoſition of the moſt powerful ſtimulants might have a run, under the title of Dr. BROWN's *exciting pill*; and for the privilege of his name offered him a ſum in hand by no means contemptible, as well as a ſhare of the contingent profits. Poor Brown, needy as he was, ſpurned at the propoſal.

It is eaſy to anticipate the remainder of my tale. Change of reſidence wrought no change of conduct. Some of his friends were diſguſted by thoſe habits which repetition had unalterably fixed. In dictating Brown's reſolutions, pride had always its ſhare: Cullen, who never mentioned his abilities without praiſe, uſed to add, that his temper rendered it

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it difficult to deal with him. At the preſent period I have been told, and I can eaſily believe, that he was more impracticable than ever. He ſpoke in ſanguine terms of the probability that his ſyſtem would become at length triumphant; but whatever he ſaid or imagined, he effected little. He attempted to open, but never, I underſtand, completed a courſe of lectures in London. In 1787 he publiſhed, without his name, thoſe "Obſervations," from which I have already borrowed a paſſage. He could not in reaſon expect to find a cordial welcome among his brethren in England. Public opinion can alone awe the body of eſtabliſhed phyſicians in any country into toleration of innovators; and knowledge on this ſubject was too little diffuſed for public opinion to operate with effect in his favour. Theſe "Obſervations" were therefore properly intended for general peruſal; but the author was extremely defective in the talent of rendering ſcience popular. Nor was he patient or rich enough to wait for the beneficial conſequences that might have reſulted, if he could have rendered his doctrine a ſubject of univerſal curioſity.

He

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He perſiſted in his old irregularities for ſome time, meditating great deſigns, with expectations not leſs ardent than if the ſpring of life, in all its bloom of hope, had been opening before him. At length, on the ſeventh of October, 1788, when he was about fifty-two years of age, he was ſeized with a fatal fit of apoplexy. He died, if I am not miſinformed, in the night, having ſwallowed as he went to bed a very large doſe of laudanum; a ſpecies of dram to which he had, indeed, been long addicted. He was at this time about to begin a courſe of lectures. I am aſſured by one who had ſeen him the evening preceding his death, that his appearance did not betray any tokens of diſtreſs; nor was it apparent that his conſtitution had run much into decay ſince his departure from Scotland.

When Cullen, two years afterwards, died in embarraſſed circumſtances, his friends obtained public aid for his family. Brown's deſtitute widow and children were ſaved from diſtreſs by private beneficence; but it cannot be expected that the contributions, raiſed for

for that purpoſe, ſhould have proved ſufficient for their permanent ſupport.

Dr. Brown's family has been already mentioned as numerous: he left two ſons and four daughters. His eldeſt ſon is now ſtudying medicine at Edinburgh, where he has experienced great liberality from the profeſſors and the ſocieties of ſtudents. His talents will, I hope, meet with a more adequate compenſation than thoſe of his unfortunate father.

In the recital of this ſcanty information, my own ſentiments have fluctuated ſo much that I am doubtful whether I have preſerved impartiality, or ſhall appear conſiſtent in the diſtribution of pity, ridicule, cenſure, and applauſe, among the incidents of Brown's life. Yet the peculiarities by which he was diſtinguiſhed, appear obvious enough. He was endowed with uncommon ſuſceptibility to impreſſions. By whatever object they were touched, the ſprings of his nature bent deeply inwards; but they immediately rebounded with equal energy. This quality is the foundation of all moral and intellectual ſuperiority; but, unhappily, the ſtrong

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ſtrong feelings and bold reſolutions of Brown were not improved into ſteady principles. He never ſeems to have taken pains to form a ſyſtem of conduct advantageous to himſelf, and juſt towards others. As ſoon as he loſt the controul of ſuperſtition, his high ſpirits hurried him into the moſt intemperate exceſſes; and, at a later period, his actions can only be regarded as the plunges of deſpair.—The tenderneſs with which his cordiality inſpired thoſe who knew him formerly, I could demonſtrate by a variety of teſtimonies. By a writer already quoted, he is ſtyled "a man "of infinite goodneſs of heart (*n*)." Dr. S—— concludes his communication with theſe expreſſions: "He was poſſeſſed of a "great mind that ſupported him in the midſt "of all his diſtreſſes. He deſpiſed riches; "deteſted every thing baſe, and poſſeſſed ſuch "openneſs of heart as to be liable to be "taken in by every knave."—He undoubtedly committed an error, which has often been productive of fatal conſequences to perſons accuſtomed to ſcientific ſpeculation. He gave

(*n*) Analyt. Rev. See above.

mankind

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mankind credit for a more ſincere regard for truth, and an higher ſenſe of its importance, than they have entertained in any age. He imagined, perhaps, that Plato's ſally concerning Virtue was applicable to Science. He therefore utterly neglected thoſe arts by which the imagination is captivated; and truſting to their intrinſic value, bluntly challenged acceptance for his opinions.

Cicero and Bacon were his favourite authors; in his elaborate compoſitions he imitated the Roman orator with affectation; and it muſt be confeſſed, that by taking advantage of the penury and want of preciſion, which Lucretius and Cicero ſo loudly lament, he has ſucceeded to his utmoſt wiſhes in conſtructing a ſtyle of claſſical obſcurity. He could, however, write otherwiſe, and unite at will perſpicuity with purity. This may be aſcertained by examining the diſſertations, which he furniſhed, at leaſt, with their Latin garb. Several are preſerved in a well-known collection (*o*);

(*o*) See Theſaurus Medicus, iii. and iv. Edinburgh, 1785.

but

but for an obvious reaſon I muſt leave it to the curious reader to diſcover, by private enquiry, which were compoſed by Brown.

Bacon he admired not only for his maſterly ſurvey of univerſal ſcience, but likewiſe, as Dr. Macdonnel acutely conjectures, becauſe that great author appeared to countenance him in the diſreſpect with which he treated his predeceſſors.—He had little medical erudition. At firſt he probably read more than ordinary ſtudents; but after he had conſtructed his theory, he ſeldom peruſed or conſulted any medical author. He was impatient when any difficulty was ſtarted which he did not ſee clearly how to ſolve (*p*): nor would he ever acknowledge any exception to his principles. An argument againſt his fundamental propoſitions, which I had mentioned in converſation to a favourite pupil, was communicated one evening, to the maſter in my preſence, a little before the hour of lecture. He ſaid little in reply at the moment. But it appeared that the objection worked upon his mind; in the courſe of his

(*p*) Dr. Macdonnel,

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lecture he waxed unexpectedly warm; and at laſt, addreſſed himſelf particularly to the pupil who had ſtated the objection. He did not attempt to expoſe its futility, as might eaſily have been done; but, exhorting him to ſuffer no inſinuations to divert his attention from the *doctrine*, he proceeded to deliver againſt the exerciſe of the underſtanding, a diſſuaſive that might have done credit to the pulpit.

The Obſervations, and the Elements of Medicine, are all the productions which he avowed. But there prevailed a ſuſpicion, and it has been publickly mentioned (*q*), that he was the author of the Enquiry, publiſhed in the name of Dr. Jones. By his moſt confidential diſciples I have been aſſured, that they never heard him drop an hint of having aſſiſted in its compoſition. In manner it certainly bears a ſtrong reſemblance to the "Obſervations;" there are, beſides, as the reader may obſerve in my quotations, forms of expreſſion peculiar to Scotland; but the profeſſed author may be ſaid to have derived the one from his preceptor, and the other

(*q*) Dr. Duncan's Letter, p. 25.

from

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from the country in which he reſided.—This book, we are told, was compoſed as ſpeedily as it could have been tranſcribed by an ordinary hand. It is unqueſtionably ill arranged, tedious, uncouth, arrogant, and illiberal; yet it contains paſſages preſenting juſter views of medicine than I remember to have elſewhere ſeen, and conceived in the genuine ſpirit of Bacon.

He deſigned a Latin elementary treatiſe of morality on philoſophical principles (*r*)—*Elementa Morum*; but he never, perhaps, committed any portion of ſuch a work to paper. We may fairly preſume that it would have been original, luminous, and profound. And ſince no man, not deeply ſkilled in ſuch knowledge, as phyſicians ſhould poſſeſs, will ever trace back human actions and paſſions, along their winding courſe, to the fountain head, the failure of Brown's deſign may be regretted as an heavy loſs to literature.

Having received a little additional information, too late for inſertion in the proper place, I annex it here. To Mr. Wait's account

(*r*) Dr. Macdonnel.

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of his quickneſs in maſtering languages, it may be added, "that Brown diſplayed a genius "for literature far ſuperior to any ſcholar that "had ever been under the care of Mr. Cruik-"ſhanks. In the courſe of two years, he "could read all the Latin claſſics with the "utmoſt facility; in the Greek language, he "made the ſame remarkable proficiency." This intelligence comes from Dr. S——, who likewiſe mentions the aſtoniſhing power of his memory, and adds, that he firſt went to Dunſe ſchool in 1751, when he muſt have been above fourteen years of age. The fact is remarkable, as he does not appear to have been before inſtructed in the rudiments of the learned languages. The ſame gentleman confirms my account of the motives of his ſtrenuous application. "The leading members "of the ſeceding congregation at Duns, to "which his parents belonged, were ſtruck "with the proofs of capacity he manifeſted at "the country-ſchool, where he learned read-"ing and writing; they encouraged him to "go to the grammar-ſchool, that he might "be afterwards educated as one of their "miniſters, expecting he would greatly con-

"tribute

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" tribute to the promotion of their particular " intereſt."——

I have pleaſure in recording that, by advice of the friend who brought him the firſt theſis to tranſlate, he addreſſed a Latin letter, to the late excellent Alexander Monro, then profeſſor of anatomy at Edinburgh, requeſting gratuitous admiſſion to his lectures. Having ſucceeded in this inſtance, he applied in the ſame manner to the other medical profeſſors.——

His intercourſe with Cullen forms the moſt curious part of Brown's hiſtory. The following memorandum includes his reaſons for diſſatisfaction with his patron, as they were aſſigned ſoon after the ſeparation to a perſon who acknowledged his talents, without being a partizan in his diſputes, or a follower of his doctrines.—" They lived upon the ſtricteſt " intimacy for many years; and Brown could " call for a bottle of wine in Cullen's houſe, " when he pleaſed. During all that time no " man in Brown's company could contradict " any of Cullen's opinions without danger of " offending him. After the quarrel, he ſaid " Cullen had promiſed him his intereſt for

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" the firſt vacant chair in the college; but " when the late Dr. Gregory died, inſtead of " uſing his intereſt in Brown's favour, he did " the reverſe—that, to try him further, Brown " petitioned for admiſſion into the philoſo- " phical ſociety, but was rejected through " Cullen's means." Here only one ſide of the queſtion is ſhewn: and the repreſentation comes from a man of impetuous paſſions, who, to obtain our full confidence, ſhould either have been leſs violent in defending or in oppoſing Cullen.—Complaints of diſappointed expectations are ſtill more common in the intercourſe of patronage, than of faithleſs vows in that of gallantry; this happens, I ſuppoſe, becauſe offers and promiſes are extracted from *harmleſs* expreſſions, by which perſons who amuſe themſelves with gallantry and patronage, do not *intend* to convey any particular meaning.

OF

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OF Dr. BROWN's PRIVATE PRACTICE.

TO ſome readers it may appear ſtrange that I ſhould have finiſhed the life of a phyſician, who cauſed ſo great an uproar in the medical world, without more particular notice of his private practice. I enquired with ſome ſolicitude, but in vain, whether during the long period of his ſtudies he was peculiarly obſervant of diſeaſes. One circumſtance I have lately learned; and it will ſurprize thoſe who believe him to have inculcated contempt for the ſciences auxiliary to medicine: my authority however is unqueſtionable. The ſeaſon before he became an independent lecturer, he was induſtrious to acquire more minute anatomical knowledge than he had gained by attendance on the public lectures; and for ſome time attended a private inſtructor at five o'clock in the morning, and continued with him for two hours; botanical

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information was added, on theſe occaſions, to the anatomical. He had formerly been adviſed by Cullen to qualify himſelf for giving demonſtrations in anatomy. Nothing could be imagined ſo entirely repugnant to his turn of mind; no wonder, therefore, the advice was not followed.

Brown ſomewhere condeſcends to ſpeak of his own "very large practice;" but this is a compliment which every medical writer apparently thinks that uſage juſtifies him in paying to himſelf.

I remember to have heard of an houſe at Edinburgh, which the Brunonians opened for the reception of poor patients; probably they were not able to procure funds for its permanent ſupport. The founder of the ſect was, I believe, ſeldom conſulted but in caſes given up as hopeleſs; and he was then apt to ſpeak with imprudent confidence. According to Dr. S——, "his wiſh to ride in his "carriage would, in all probability, have "been gratified, had it not been prevented "by his ſudden death afterwards in Lon-"don." If this ſurmiſe is founded upon any real tokens of approaching proſperity, I could

wiſh

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wiſh they had been aſſigned. For Brown went to London with no favourable omens; every extraneous circumſtance was againſt him, and what elſe could avail him in a place, where it is well known to men of obſervation, that ſucceſs has ſeldom been in proportion to merit? Dr. JOHNSON, who muſt have witneſſed phyſician after phyſician carrying away the prize of public favour from competitors, far ſuperior in particular ſkill and general abilities, declares that "in a great "city medical reputation is, for the moſt "part, totally caſual." "By an acute ob-"ſerver," he ſubjoins, "who had looked on "the tranſactions of the medical world for "half a century, a very curious book might "be written on the *fortune of phyſicians*." The idea appears to me ſo happy that I ſhall venture to proſecute it through a few pages.

Such a book, with a due extenſion of the plan, would afford opportunities for diſplaying profeſſional ſcience, wit, knowledge of the world, and benevolence. For if it be true that many have been received in the name of the goddeſs of health, who were, in reality, not the leaſt active among the miniſters of death,

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death, the miſtake deſerves to be cleared up; and a proper explanation would be better than "curious;" it would not only teach how ſome members of *the faculty* have contrived to retain a privilege which the prieſthood has loſt, but furniſh I know not how much uſeful inſtruction beſides.

OF REPUTATION IN PHYSIC.

On the moſt ſuperficial enquiry, it would be manifeſt that *this* man proſpered becauſe he had been of a certain univerſity; *another*, merely becauſe he belonged to a particular ſect; a *third*, becauſe he happened to be in the way of procuring a recommendation to ſome leader in politics or faſhion. A great number would be ſeen to have ſucceeded in life for the ſame reaſon preciſely that Falſtaff ſucceeds upon the ſtage. Few analyſe their ſenſations, and the firſt impreſſion made by theſe adventurers was pleaſing. As far as the dramatic perſonage is concerned, the reaſon is unqueſtionable, but it by no means applies ſo happily to the other caſe. The qualities producing the happy impreſſion, have, in truth, frequently borne no nearer a relation

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a relation to profeſſional merit, than Falſtaff's pleaſantry to ſolid worth of character; in a variety of inſtances, they have been no other than ſymmetry of features or ſoftneſs of addreſs.

It is calamitous enough for individuals, labouring under diſeaſe, to fall into bad or indifferent hands; but when the caprice of fortune elevates her worthleſs favourites to the firſt eminence in ſo important a profeſſion as medicine, a more entenſive injury is done to ſociety than we ſhould at firſt imagine. To calculate its amount requires a great deal of thought. Beſide the miſchief they perpetrate with their own hands, theſe intruders occupy the ſtation due (if the general welfare is to ſettle the precedence), to phyſicians of enlarged views, who would make a beneficial uſe of its advantages, and impel the defective art on towards perfection. Is an example neceſſary to enable you to conceive what might be effected by the powerful influence of medical men, enjoying the confidence of the great? A number may be given, but one will ſuffice; and it is the better for its ſimplicity. We have not obſervations from which

which we can certainly deduce the difference, in point of efficacy, between certain warm medicinal ſprings and common water, heated to the ſame temperature. The problem, merely for its curioſity, deſerves to be ſolved; and it happens to be peculiarly intereſting to that order, from which doctors in vogue receive their ampleſt gratuities. They have ſhewn little anxiety for the removal of this difficulty, either for their own direction in practice, or by way of return to their benefactors.

They will too often, I fear, be found to have been worſe than inattentive to the advancement of their art; and to have diſcouraged uſeful inveſtigations by inſinuation, if not by direct oppoſition. Pride and avarice will always combine to render a proſperous adventurer in medicine, whoſe views are narrow, jealous of improvements and hoſtile to improvers. The internal monitor whiſpers that it was not by knowledge he roſe, but by knowledge he may ſink. It is therefore the conſtant expedient of dullneſs to perſuade the world that men of genius are deficient in judgment; though it be certain that the very perſons who have been moſt remarkable for deviſing new means of relieving diſtreſs

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diſtreſs and removing uncertainty, have alſo been the moſt acute in diſcerning the real relations of things. Still, however, *the old way* is judged *the ſafeſt*, and crafty mediocrity treaſures up the ſpoils of the credulous and the rich.

It is poſſible to meaſure the number of degrees by which medicine is more imperfect than it would have been if the public was not ſo liable to miſplace its confidence, and had not actually ſo often miſplaced it. For this purpoſe, our enquirer, I apprehend, will find in the progreſs of a kindred art, a ſtandard of eaſy application. Let it be ſuppoſed that a ſucceſſion of men of ſpecious carriage and mean talents had flouriſhed for a century paſt, in the place of our great improvers of ſurgery. Then good part of their diſcoveries would have been loſt, for we cannot believe that, under diſcouragement, and with inferior opportunities, Pott, Hunter, and their predeceſſors could have rendered equal ſervices to humanity. Of theſe ſervices a conciſe but clear account ſhould be given; the ſame ſcrutiny ſhould then be extended to the labours of the phyſicians that have flouriſhed during the ſame

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ſame period; it may begin with Radcliffe, and be carried down to our own times. Thus ordinary readers would be put in a condition to judge how far it betrays a ſpirit of wanton diſparagement, to affirm that a phyſician in a great city, "is the mere plaything of for-"tune, they that employ him, not knowing "his excellence, nor they that reject him, his "deficience (*s*);" theſe aſſertions, if they be well-founded, inevitably lead to a concluſion more important than ſatisfactory, for however we may be ſtartled, we muſt infer *that the greateſt repute in medicine affords ſcarce the ſlighteſt preſumption of ſuperior ſkilfulneſs.*

Of the fortunate ſons of Eſculapius, ſeveral have been wary enough not to expoſe themſelves to criticiſm; in moſt caſes, however, we have memorials ſufficient to guide our judgment; ſome have left written documents of their powers; here the proportion between reputation and ability can be eſtimated with great preciſion.

Conſidering that his enquiry can be uſeful only by inculcating ſalutary circumſpection,

(*s*) Johnſon's Life of Akenſide.

our

our authot ſhould not be deterred by the firſt ſentiments of repugnance which *the attack* would excite in many minds, nor by the reſpect due to his virtues, from examining the title of the celebrated Fothergill to preſent confidence, or poſthumous reputation. He ſhould inſiſt the more on this deciſive example, becauſe Fothergill really appears to have done his beſt towards improving the art that enriched him; and becauſe it would be difficult to prove that any among his equals in popularity, have performed, or could have performed greater things. How far he excelled in ſagacity of diſcrimination, or fertility of reſources, would be eaſily ſhewn by an impartial ſurvey of his works; and little doubt would remain whether his patients would have ſuſtained much diſadvantage, or our preſent ſtock of information much diminition, if any well-meaning man of plain ſenſe had moved in his ſphere. If the ſmalleſt ſcruple ſhould be left, there exiſts a piece of evidence which it may be the more difficult to reſiſt, as it comes from the mouth of the worthy Doctor himſelf. Fothergill and others, have been heard by Dr. G. Fordyce,

" to

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" to ſtate in a ſerious harangue, their inſpira-
" tion, not only in the knowledge of diſeaſes
" without enquiring into their external ap-
" pearances, but in making preſcriptions to
" flow from their pen, without any previous
" compoſition in their mind; not in com-
" pliance with the prejudices of their patients,
" but from their own belief (*t*)."

From ſuch a comparative eſtimate, the chief reaſon why ſurgery has ſo far diſtanced medicine, would appear. Should it be ſaid that ſurgery muſt, from its nature, have outſtripped medicine, as mechanical philoſophy neceſſarily attained ſome degree of perfection before chemiſtry, the juſtneſs of the obſervation may be acknowledged. But after a liberal allowance for this cauſe of inequality, the author of the Inveſtigation would find a far more powerful cauſe neceſſary to account for the whole effect.—He might corroborate his inference by an enumeration of the improvements actually made in medicine; from which it would be evident that they have been principally owing to perſons enjoying moderate reputation in the country.

(*t*) Fordyce on Fever, p. 160.

Objections

Objections will occur to haſty reaſoners; and theſe the author muſt take care to obviate. "A phyſician of great eminence may "be too buſy to write; he may, alſo, be "highly uſeful in his generation without "leaving any traces of his ſkill behind." He could not, however, well be more buſy than ſeveral of the moſt eminent ſurgeons, who have found time to write extenſive treatiſes; moreover, his practice and converſation, without the aid of his pen, would ſo widely ſpread the knowledge of his diſcoveries, that the patients of every village apothecary would have cauſe to bleſs the London luminary of phyſic.

The anſwer to theſe objections affords a criterion, by which we ſhall be as little liable to be deceived, as when we judge of the value of a fruit-tree by its produce. *If a phyſician has attained to great eminence without having made ſome aſſignable improvement in phyſic, if he has neither executed nor promoted any deſigns, tending to this end, he may be ſafely ſet down as the narrow-minded creature of artifice, or the ſpoiled child of chance.* In an age where every incident is brought

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within reach of every eye, we may with perfect ſafety apply to perſonages ſo conſpicuous the maxim of the ſchoolmen, that "what does not appear, is to be reputed not to exiſt."

The work in queſtion doubtleſs requires courage as well as other valuable qualities; yet the author, if I do not miſtake, would incur leſs danger at preſent than at any preceding period. The poſſeſſors of ſurreptitious or accidental fame, would infallibly join in crying or hunting him down, and by ſigns of alarm bear witneſs to the merit of the production. But I have reaſon to believe that the combination would fail in bringing it into total diſcredit. Some progreſs has been made in arranging the peculiar properties of animated nature, and in recommending to mankind the knowledge of themſelves. A ſeries of propoſitions, expreſſed in intelligible language, and capable of compariſon with appearances, has been formed. Theſe propoſitions, which occur principally in the writings of Dr. Brown, Mr. Hunter, and the author of Zoonomia, may be regarded as the foundation of a new ſcience, not leſs generally intereſting

intereſting than any of the preceding: for it would be difficult to aſſign a reaſon why the celeſtial motions, the working of machines, or chymical phænomena, ſhould be objects of liberal curioſity; to the excluſion of the effects produced by the principle of life. One reaſon, of which the force will not be eaſily eluded, may be aſſigned in behalf of the latter ſtudy. It directly tends to promote the well-being, and prolong the exiſtence, of the ſtudent. The time therefore cannot be far diſtant, when inſtruction concerning the cauſes of health and diſeaſe will be acknowledged to form a neceſſary part of all rational education; and the nearer we approach to this period, with leſs hazard may the analyſis propoſed by Johnſon, with the plan ſo enlarged, and the purpoſe ſo ennobled, be executed.

There is, ſtill, an addition which, in my opinion, would contribute ſomewhat to preciſion, and ſomewhat to ſecure the ſick againſt the danger of medical ſlaughter. This appendix I ſhould call JATROLOGIA, a denomination from which the learned reader may infer, that I have in view ſome ſuch application of the Linnæan method to Phyſi-

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cians, as Baron Born has exemplified in his claſſification of Monks.

If thoſe aſſemblages of human animals, that conſtitute political ſocieties, were arranged according to the nature of their occupations, one claſs would conſiſt of individuals, depending for their ſupport upon opinion. This claſs, being provided with a name of Greek origin, might be eaſily ſplit into orders; of theſe orders the medical tribe would make one. We have the order broken into genera ready to our hands: of the diſtribution into ſpecies (which is more difficult) a ſpecimen is ſubjoined.—Our writer's preſent concern is only with the genus—*Doctor of Phyſic.* This genus we may ſubdivide into ſections, or groups; as Linnæus ſometimes manages with genera, comprehending a number of ſpecies.

SECT. I.

DOCTORS *as deſirous, at leaſt, of doing good and extending knowledge, as of amaſſing wealth.*

1. *The philanthropic* DOCTOR, D. equally ſenſible of the importance and imperfection of medicine; compares the phænomena of health and diſeaſe with unwearied aſſiduity, that

that he may form a juſt arrangement of the actions of life, perſuaded that this is the only ſure guide in medical practice; cautiouſly tries new remedies, and abides by the beſt; beats the coverts of ſcience, that he may himſelf ſtart ſomething uſeful; is humane in his conduct, not ſo much from ſudden impulſes of the paſſion of pity, as from a ſettled conviction of the miſery prevailing among mankind.

Var. α. *The* ſhy *philanth. D.* ſick with diſguſt at the manœuvres of his intriguing brethren, runs into the oppoſite extreme, and keeps too cloſely retired from public notice.

Var. β. *The* renegado *phil. D.* poſſeſſing activity of mind and integrity of principles; relinquiſhes the practice of phyſic, partly for the ſame reaſon as Var. α. and partly from diſſatisfaction with its helpleſs ſtate; applies his talents to literature or ſcience.

Obſ. 1. Several of the greateſt acceſſions to human knowledge are owing to this ſecond variety.

Obſ. 2. A careful examination and compariſon of theſe two varieties, with ſome of the ſucceeding ſpecies, will elucidate the na-

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ture of thoſe phyſicians, that have uſually had great *local* vogue.

More frequent than formerly—not apt to flouriſh in great cities—otherwiſe not confined to any particular ſituation. As ſelf-love grows more enlightened, the more common will this ſp. of D. become, till it ſupplants all the others: man being an animal leſs liable to be duped as his ignorance decreaſes.

SECT. II.

D. *Mere collectors of fees, regardleſs of medical ſcience, given to artifice and intrigue, each ſpecies after its own manner.*

3. *The bullying* DOCTOR, D.

—— Inexorabilis, acer

looks big, ſtruts, ſwaggers, ſwears.

Obſ. Surgeons, in our times, more frequently bear theſe marks. According to a moſt acute contemporary author, the famous RADCLIFFE was a compleat ſpecimen of the bullying D. "With ſmall ſkill in phyſic, "and hardly any learning, he got into prac- "tice by vile arts.—He would neglect a "nobleman that gave exorbitant fees;" and to heighten the inſult by contraſt "at the "ſame

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" ſame time carefully attend a ſervant or " mean perſon for nothing—he was ſurly " and moroſe; treated his patients like dogs " —extended his inſolence even to the Royal " Family—ſcorned to conſult with his betters " on what emergency ſoever; looked down with contempt on the moſt deſerving of his " profeſſion, and never would confer with any " phyſician who would not pay homage to " his ſuperior genius; creep to his humour, " and never approach him but with the ſlaviſh " obſequiouſneſs of a court flatterer."

3. *The bacchanalian* DOCTOR. D. given to ſottiſhneſs, if not to drunkenneſs—generally ſomewhat of the Bully.

4. *The ſolemn* DOCTOR. D. with garb, voice, geſtures, and equipage, contrived to overawe weak imaginations, and hide the futility of his art.

Obſ. 1. D. of this remarkable ſpecies firſt practiſed phyſic with pomp: they invented or borrowed from the other profeſſions thoſe barbarous habiliments, of which ridicule has but lately ſtripped phyſicians. In times, when an huge wig, or a flowing gown, could more effectually command reſpect than ſound mora-

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lity, ſubſtantial juſtice, or uſeful ſkill, the ſtratagem ſucceeded to admiration.

Obſ. 2. D. of this ſpecies, when a pretext offers, ſpeak oſtentatiouſly of their experience —never ſuſpecting any of their hearers may know that there are underſtandings which multiplicity of appearances ſerves but to confound.

5. *The club-hunting* Doctor. D. frequenting the crowded haunts of men; puſhing himſelf forward, ſaluting all he knows, and all who will know him; talking much and loud.

Obſ. In England, D. of this ſpecies have of late been frequently ſeen in paroxyſms of frantic loyalty, and of *civiſme* in France.

6. *The burr* Doctor. D. faſtening himſelf upon you as tenaciouſly as the heads of the noiſome weed *(centaurea calcitrapa)*, from which the trivial name of the ſp. is taken, fix upon your cloaths.

Obſ. Nothing in art, but the juggler's addreſs in making you take what card he pleaſes out of a pack, equals the dexterity with which D. of this ſp. force themſelves on patients.

7. *The*

7. *The wheedling* DOCTOR. D. with an everlaſting ſmirk upon his countenance—frequent at the polite end of large cities, and at places of faſhionable reſort.

Var. α. *The* Adonis *wheedling D.* D. with an handſome face, joined to the wily addreſs, characteriſtic of the ſp.—flouriſhes at watering places; ſometimes joins to his profeſſion the trade of a fortune-hunter; and if he ſucceeds, "gives phyſic to the dogs."

Obſ. 1. D. of this ſp. when moſt moderate, preſcribe for every rich patient two draughts a day, and one night draught, beſide pills and powders. Hence needleſſly to ſwallow nauſeous drenches may be numbered among the curſes of wealth.

Obſ. 2. The *Adonis* D. has ſooner or later a patient of note, ill of a fever or ſome diſeaſe, that uſually terminates favourably; in caſe of recovery the female buſy-bodies of the place, exert their ſpirit of cabal in behalf of the wonder-working youth, and his fortune is made.

8. *The caſe-coining* DOCTOR. D. publiſhing forged or falſified caſes.

Obſ. "A very fertile ſource of falſe facts "has been opened for ſome time paſt. This "is,

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" is, in ſome young phyſicians, the vanity of " being the authors of obſervations which are " often too haſtily made, *and ſometimes, per-* " *haps, very entirely dreſſed in the cloſet.* We " dare not at preſent be more particular; " but the next age will diſcern many inſtances " of perhaps the direct falſehoods, and cer- " tainly the many miſtakes in fact, produced " in the preſent age, concerning the virtues " and powers of medicines." CULLEN. Mater. Med. I. 153.

A-kin to this flagitious abuſe is the practice of purchaſing falſe atteſtations, on oath, for advertiſements; and what is ſtill worſe in effect, though not in intention; a cuſtom beginning to prevail among perſons of diſtinction—who cannot be ſuppoſed capable of diſcriminating diſeaſes, or deciding on the efficacy of drugs—but who, nevertheleſs, permit Quacks to uſe their names in teſtimony of cures, which they *ſuppoſe* themſelves to have witneſſed.

9. *The good-ſort-of-man* DOCTOR. D. a good ſort of man, armed, by ſome miſtake, with a diploma.

Var. α. *The* goſſiping *good-ſort-of-man D.* fetches and carries ſcandal.

Obſ.

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Obſ. Varieties numerous as the hues of the chamæleon.

10. *The Sectarian* DOCTOR. D. dwelling among his own people at firſt; and by them often puſhed on to ſpread devaſtation among the reſt of mankind.

Obſ. Varieties manifold; each diſtinguiſhable by the livery of its ſect—one is too curious to be omitted.

Var. α. *The* inſpired *Sect.* DOCTOR. D. believing himſelf to be inſpired with the knowledge of diſeaſes and remedies.

In civilized countries not much more frequent than witches. Among rude tribes, as among the Tartar hordes, a kindred variety is univerſally found. See Gmelin's Travels. But theſe ſeem rather to pretend to inſpiration, than really to believe that their deity ſerves them in the capacity of Prompter: and they conjoin the characters of prieſt and conjurer with that of phyſician. I have not been able to aſcertain whether our variety receives the afflatus, except in its medical capacity: and the miracles it has wrought in this, are not ſo perfectly authenticated, as to ſilence cavillers.

Obſ.

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Obſ. People are now-a-days delicate in giving recommendations on ſome occaſions; but the beſt bred perſons make no ſcruple of preſſing a favourite phyſician or apothecary upon their acquaintance. Yet one would think that they are nearly as competent to ſpeak to the merit of a footman, as of a preſcriber or compounder of drugs. Sects ſometimes improve this propenſity into a regular ſyſtem of cabal. The deeper the hypocriſy, or the wilder the enthuſiaſm of the Sect. Doctor, the more eagerly will his brother-fanatics daſh through thick and thin to ſerve him. Now, as belief or diſbelief in certain points of theology, has no apparent connection with ſkill in the adminiſtration of antimony, mercury, opium, and bark, we may deduce from this fact a rule which is probably as little liable to exception, as any that be laid down on the whole ſubject. *Never call in a phyſician,* BECAUSE *he is recommended by a perſon of the ſame Sect; the more you are urged, be the more on your guard againſt the ſnare.* This rule extends to all dæmoniacs poſſeſſed by the *corporation-ſpirit,* and to all ſets of perſons remarkably gregarious.

Obſ.

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Obſervation.

Concerning this decad of doctors, there remains a caution to be laid down; and that it may make the greater impreſſion, I ſhall deliver it in the ſtyle of my models, the naturaliſts. *Notandum in toto hoc genere naturam mirabiles edere luſus.* It is indeed applicable to all the ſpecies; individuals being apt, like hybrid plants, or mule animals, to exhibit the marks of two ſpecies, wholly or in part.

OF

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OF THE BRUNONIAN DOCTRINE.

A complete inveſtigation of Dr. Brown's theory of living nature, with its application to the knowledge and treatment of diſeaſes, would, at leaſt, equal the original work in ſize; beſides, if I had any inclination to write ſuch a commentary, I ſhould not conſider this as the proper place for introducing it. I have, however, a few words to ſay on the outlines and formation of the ſyſtem. I ſhall ſubjoin ſome reflections to put medical ſtudents and readers, not profeſſional, in the way of profiting by the true principles he promulgated without being miſled by his doubtful or erroneous poſitions.

Of Dr. Brown's Fundamental Propoſitions.

The varied ſtructure of organized beings it is the buſineſs of anatomy to explain. Conſciouſneſs, aſſiſted by common obſervation, will diſtinguiſh animated from inanimate bodies with preciſion more than ſufficient for all the ends of medicine. The cauſe of *gravitation* has been left unexplored by all prudent philoſophers; and Brown, avoiding all uſeleſs diſquiſition concerning the cauſe of *vitality*, confines himſelf to the phænomena, which this

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this great moving principle in nature may be obſerved to produce. His moſt general propoſitions are eaſy of comprehenſion.

I. To every animated being is allotted a certain portion only of the quality or principle, on which the phænomena of life depend. This principle is denominated EXCITABILITY.

II. The excitability varies in different animals, and in the ſame animal at different times. As it is more intenſe, the animal is more vivacious or more ſuſceptible of the action of *exciting* powers.

III. Exciting powers may be referred to two claſſes. 1. External, as heat, food, wine, poiſons, contagions, the blood, ſecreted fluids, and air. 2. Internal, as the functions of the body itſelf, muſcular exertion, thinking, emotion and paſſion.

IV. *Life is a forced ſtate*; if the exciting powers are withdrawn, death enſues as certainly as when the excitability is gone.

V. The *excitement* may be too great, too ſmall, or in juſt meaſure.

VI. By too great excitement weakneſs is induced, becauſe the excitability become defective; this is *indirect debility*: when the exciting powers

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powers or ſtimulants are withheld, weakneſs is induced; and this is *direct debility*. Here the excitability is in exceſs.

VII. Every power that acts on the living frame, is ſtimulant, or produces excitement by expending excitability. Thus, although a perſon, accuſtomed to animal food, may grow weak if he lives upon vegetables, ſtill the vegetable diet can only be conſidered as producing an effect, the ſame in kind with animals, though inferior in degree. Whatever powers therefore, we imagine, and however they vary from ſuch as are habitually applied to produce due excitement, they can only weaken the ſyſtem by urging it into too much motion, or ſuffering it to ſink into languor.

VIII. Excitability is ſeated in the medullary portion of the nerves, and in the muſcles. As ſoon as it is any where affected, it is immediately affected every where; nor is the excitement ever increaſed in a part, while it is generally diminiſhed in the ſyſtem; in other words, different parts can never be in oppoſite ſtates of excitement.

I have already ſpoken of an illuſtration, drawn up by Mr. Chriſtie from a familiar operation,

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ration, to facilitate the conception of Brown's fundamental poſitions. I introduce it here as more likely to anſwer its purpoſe than if ſeparately placed at the end of my preliminary obſervations. "Suppoſe a fire to be "made in a grate, filled with a kind of fuel "not very combuſtible, and which could "only be kept burning, by means of a ma- "chine containing ſeveral tubes, placed be- "fore it, and conſtantly pouring ſtreams of "air into it. Suppoſe alſo a pipe to be fixed "in the back of the chimney, through which "a conſtant ſupply of freſh fuel was gra- "dually let down into the grate, to repair "the waſte occaſioned by the flame, kept up "by the air machine."

"The *grate* will repreſent the human frame; the *fuel* in it, the *matter of life*, the "*excitability* of Dr. Brown and the *ſenſorial* "*power* of Dr. Darwin; the *tube* behind "ſupplying freſh fuel, will denote the power "of all living ſyſtems conſtantly to regenerate "or reproduce excitability; while the *air* "*machine*, of ſeveral tubes, denotes the va- "rious *ſtimuli* applied to the excitability of "the body; and the *flame* drawn forth in

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" conſequence of that application repreſents " *life*, the product of the exciting powers " acting upon the excitability."

" As Dr. Brown has defined *life* to be " *a* " *forced ſtate*," it is fitly repreſented by a " flame, *forcibly* drawn forth, from fuel little " diſpoſed to combuſtion, by the conſtant " application of ſtreams of air poured into it " from the different tubes of a machine. If " ſome of theſe tubes are ſuppoſed to convey " *pure* or dephlogiſticated air, they will de- " note the higheſt claſs of exciting powers, " opium, muſk, camphor, ſpirits, wine, to- " bacco, &c. the diffuſible ſtimuli of Dr. " Brown, which bring forth for a time a " greater quantity of life than uſual, as the " blowing in of pure air into a fire will tem- " porarily draw forth an uncommon quantity " of flame. If others of the tubes be ſup- " poſed to convey common or atmoſpheric " air, they will repreſent the ordinary ex- " citing powers, or ſtimuli, applied to the " human frame, ſuch as heat, light, air, " food, drink, &c. while ſuch as convey im- " pure and inflammable air may be uſed to " denote what have formerly been termed

" ſedative

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" ſedative powers, ſuch as poiſons, conta-
" gious miaſmata, foul air, &c."

" The reader will now probably be at no
" loſs to underſtand the ſeeming paradox of
" the Brunonian ſyſtem; that food, drink,
" and all the powers applied to the body,
" though they ſupport life, yet conſume it;
" for he will ſee, that the application of theſe
" powers, though it brings forth *life*, yet at
" the ſame time it waſtes the excitability or
" *matter of life*, juſt as the air blown into the
" fire brings forth more *flame*, but waſtes the
" *fuel* or *matter of fire*. This is conformable
" to the common ſaying, " the more a ſpark
" is blown, the brighter it burns, and the
" ſooner it is ſpent." A Roman poet has
" given us, without intending it, an excellent
" illuſtration of the Brunonian ſyſtem, when
" he ſays,

" Balnea, Vina, Venus, conſumunt corpora noſtra,
" Sed Vitam faciunt Balnea Vina Venus."

" Wine, warmth, and love our vigour drain;
" Yet wine, warmth, love, our life ſuſtain."

Or to tranſlate it more literally,

" Baths, women, wine, exhauſt our frame,
" But life itſelf is drawn from them."

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" Equally eaſy will it be to illuſtrate the " two kinds of *debility*, termed *direct* and *in-* " *direct*, which, according to Brown, are the " cauſe of all diſeaſes. If the quantity of " ſtimulus, or exciting power, is propor- " tioned to the quantity of excitability, that " is, if no more excitement is drawn forth " than is equal to the quantity of excitabil- " ity produced, the human frame will be in a " ſtate of health, juſt as the fire will be in a " vigorous ſtate, when no more air is blown " in, than is ſufficient to conſume the freſh " ſupply of fuel conſtantly poured down by " the tube behind. If a ſufficient quantity " of ſtimulus is not applied, or air not blown " in, the excitability in the man, and the fuel " in the fire will accumulate, producing *direct* " *debility*, for the man will become *weak*, and " the fire *low*. Carried to a certain degree " they will occaſion death to the firſt, and " extinction to the laſt. If again, an over " proportion of ſtimulus be applied, or too " much air blown in, the excitability will " ſoon be waſted, and the matter of fuel al- " moſt ſpent. Hence will ariſe *indirect de-* " *bility*, producing the ſame weakneſs in the " man,

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" man, and lowneſs in the fire as before, and
" equally terminating, when carried to a
" certain degree, in death and extinction."

" As all the diſeaſes of the body, accord-
" ing to Dr. Brown, are occaſioned by direct
" or indirect debility, in conſequence of too
" much or too little ſtimuli, ſo all the defects
" of the fire muſt ariſe from direct or in-
" direct lowneſs, in conſequence of too much
" or too little air blown into it. As Brown
" taught that one debility was never to be
" cured by another, but both by the more
" judicious application of ſtimuli, ſo will be
" found the caſe in treating the defects of
" the fire. If the fire has become low, or
" the man weak by the want of the needful
" quantity of ſtimulus, more muſt be ap-
" plied, but very gently at firſt, and increaſed
" by degrees, leſt a ſtrong ſtimulus applied to
" the accumulated excitability ſhould pro-
" duce death, as in the caſe of a limb be-
" numbed by cold (that is weakened by the
" accumulation of its excitability in conſe-
" quence of the abſtraction of the uſual
" ſtimulus of heat), and ſuddenly held to the
" fire, which we know from experience is in

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" danger of mortification, or as in the caſe
" of the fire become very low by the accu-
" mulation of the matter of fuel, when the
feeble flame, aſſailed by a ſudden and
" ſtrong blaſt of air, would be overpowered
" and put out, inſtead of being nouriſhed and
" increaſed. Again, if the man or the fire
" have been rendered *indirectly* weak, by the
" application of too much ſtimulus, we are
" not ſuddenly to withdraw the whole, or
" even a great quantity of the exciting powers
" or air, for then the weakened life and di-
" miniſhed flame might ſink entirely, but
" we are by little and little to diminiſh the
" overplus of ſtimulus, ſo as to enable the
" excitability, or matter of fuel, gradually to
" recover its proper proportion. Thus a
" man who has injured his conſtitution by
" the abuſe of ſpirituous liquors, is not ſud-
" denly to be reduced to water alone, as is the
" practice of ſome phyſicians, but he is to be
" treated, as the judicious Dr. Pitcairn of
" Edinburgh, is ſaid to have treated a High-
" land chieftain, who applied to him for ad-
" vice in this ſituation. The Doctor gave
" him no medicines, and only exacted a pro-
" miſe

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" miſe of him, that he would every day put " in as much wax into the wooden *queich* out " of which he drank his whiſky, as would " receive the impreſſion of his arms. The " wax thus gradually accumulating, di- " miniſhed daily the quantity of the whiſky, " till the whole *queich* was filled with wax, " and the chieftain was thus gradually, and " without injury to his conſtitution, cured " of the habit of drinking ſpirits."

" Theſe analogies might be purſued far- " ther; but my object is ſolely to furniſh " ſome general ideas, to prepare the reader " for entering more eaſily into the Brunonian " theory, which I think he will be enabled " to do after peruſing what I have ſaid. The " great excellence of that theory, as applied " not only to the practice of phyſic, but to " the *general conduct of the health* is, that it " impreſſes on the mind a ſenſe of the im- " propriety and danger of going from one " extreme to another. The human frame " is capable of enduring great varieties, if " time be given it, to accomodate itſelf to " different ſtates. All the miſchief is done " in the tranſition from one ſtate to another.

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" In a ſtate of low excitement we are not raſhly
" to induce a ſtate of high excitement, nor
" when elevated to the latter, are we ſuddenly
" to deſcend to the former, but ſtep by ſtep,
" and as one who from the top of a high
" tower deſcends to the ground. From
" haſty and violent changes the human
" frame always ſuffers, its particles are torn
" aſunder, its organs injured, the vital prin-
" ciple impaired, and diſeaſe, often death,
" is the inevitable conſequence."

" I have only to add that though in this
" illuſtration of the Brunonian Syſtem (writ-
" ten ſeveral years ago), I have ſpoken of
" a tube conſtantly pouring in freſh fuel, be-
" cauſe I could not otherwiſe convey to the
" reader a familiar idea, of the power poſſeſ-
" ſed by all living ſyſtems, to renew their
" excitability when exhauſted, yet it may
" be proper to inform the ſtudent, that Dr.
" Brown ſuppoſed every living ſyſtem to
" have received at the beginning its determi-
" nate portion of excitability, and therefore,
" although he ſpoke of the exhauſtion, aug-
" mentation, and even *renewal* of excitability,

" I do

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" I do not think it was his intention to in-
" duce his pupils to think of it, as a kind of
" fluid *ſubſtance*, exiſting in the animal and
" ſubject to the law by which ſuch ſubſtances
" are governed. According to him excita-
" bility was an unknown *ſomewhat*, ſubject
" to peculiar laws of its own, and whoſe
" different ſtates we were obliged to deſcribe
" (though inaccurately) by terms borrowed
" from the qualities of material ſubſtances."

T. C.

IT was not unuſual for Brown's diſciples to diſagree, when they were called upon for a ſtrict interpretation of his principal tenets. If they be rigidly examined, they will be found, I think, not quite conſiſtent with his own important doctrine of the accumulation of excitability, during different ſtates of inaction. It appears to me, that according to his firſt chapters (xviii), living beings ought to have proceeded through languor to death in one unbroken tenour of wakefulneſs, and that all the images and lamentations which ſleep has ſuggeſted to the poets, would have been loſt. He who aſſumes that a certain portion

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portion of excitability is originally aſſigned to every living ſyſtem, by his very aſſumption, denies its continual production, ſubſequent diffuſion, and expenditure at a rate equal to the ſupply, or greater or leſs. That the brain is an organ deſtined to ſecrete the matter of life, he could never have ſuppoſed, otherwiſe he would not have expreſſed a doubt whether excitability be a quality or a ſubſtance.

If we admit a ſucceſſive ſupply of this principle, we may ſolve in a very eaſy manner, ſeveral difficulties, for the ſake of which new epicycles muſt be added to Brown's ſyſtem. In the cold bath we may imagine the generation of ſenſorial power, to proceed with ſmall diminution, while the actions on the ſurface of the body are conſiderably abated by local ſubduction of heat. Thus the well-known glow will be the effect of undiminiſhed production within, while external expenditure is diminiſhed. But weak perſons frequently do not experience any glow. Here the action on the ſkin affects the ſyſtem univerſally; the production, therefore, is checked from the torpor of the ſecerning organ, and this

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ſtate of the brain explains the head-ach and chillineſs, ſubſequent to the miſuſe of the cold bath. Theſe effects are not, in my apprehenſion, eaſy to be reconciled to the hypotheſis of a fixed original ſtock of excitability; the ſame thing may be ſaid of ſeeds and eggs long preſerved, without ſenſible change, in a ſtate capable of germination and growth. Sleep ſometimes produces no refreſhment, and yet it ſeems not to be imperfect or diſturbed in proportion to the languor felt on awaking. This I have attributed to a failure in the ſupply of excitability (*a.*); and nervous fever is imputed by another phyſiologiſt, to this cauſe of debility, of which Brown had no ſuſpicion.—If an illuſtrative analogy be deſired, his excitability might be compared to a fluid lodged in the body as a reſervoir. According to the ſtatement which I think more conſonant to the phænomena, excitability would be like a fluid iſſuing from the brain as water from a ſpring. Theſe reſemblances might be traced a little way, but they ſoon fail, as always happens in matters ſo eſſentially diſſimilar.

(*a*). Obſervations on Calculus, &c.

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The hypotheſis of Brown is happily adapted to the limited term of life; according to the other ſuppoſition, we muſt conceive old age and death to depend upon a limited power of ſecretion in the brain. The difference is ſcarcely perceptible here, but in terms; it is, however, pleaſing to ſuppoſe that wiſer ages will be employed in the culture of the human ſpecies to which prolongation of life is eſſential: and we can more eaſily reconcile our thoughts to augmentation of power in a ſecerning organ, than of the original proviſion of excitability; ſo that the doctrine, in other reſpects the more probable, ſeems more conformable to the proſpect of improvement.

Of Brown's Application of his Principles.

The moſt negligent obſerver might bring ſpecious objections againſt that uniformity of operation in ſtimulants, which is taught in the firſt propoſitions of the following elements: "heat and wine, it might be ſaid, can never act in the ſame manner, for no perſon is intoxicated by heat." In the progreſs of his work we find the author relaxing, in ſome degree, the rigour of his principles.

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ples. When the excitability is waſted by one ſtimulus, excitement, he ſays, may be produced by another; nor does it ſeem neceſſary, according to the examples quoted in the latter part of the thirty-firſt paragraph, and the ſubjoined note, that the ſecond ſtimulus ſhould be more powerful than the firſt. The ſucceſſion in the note is, *food, thought, wine, food, punch, opium, punch, thought,* and *ſpeech*; and this is not conformable to the aſcending ſcale of ſtimuli, according to his eſtimate in other paſſages.

He alſo admits ſome modification of ſtimulant power, from the manner in which different ſtimuli are applied. Thus heat ſtimulates the ſurface more than the ſubjacent parts; and ſtimuli received into the ſtomach exert more action there than on any other part.

It is extraordinary that he ſhould not have extended this inequality of operation to the conſtituent, as well as the integrant parts of the ſyſtem. It was his principal fault, *naturam tanquam e prælta turri deſpicere*; hence his explanation of minute appearances, will often be found unſatisfactory.

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The fourth and ſixth chapter of Part II. afford ſeveral examples; I ſhall ſelect one: "Thirſt and heat," he obſerves, (CLIX.) "depend upon ſthenic diatheſis of the extreme veſſels of the fauces and ſkin. Theſe veſſels become ſo much conſtricted as to prevent the diſcharge of the perſpirable matter. Meanwhile the blood, flowing near the extremities of the exhalant veſſels, lodges under the cuticle, the heat which is generated in the ſyſtem, and which would be carried off, if the perſpiration were free." He explains ſthenic thirſt from a ſimilar conſtriction of the veſſels, which ſecrete ſaliva and mucus; and in the ſmall-pox, the puſtules are ſaid to be occaſioned by a ſimilar conſtriction, which detains the contagious matter under the cuticle. This permanent conſtriction, we are told, is not ſpaſm; no diſtinction, however, is attempted, except by referring conſtriction to exceſs, and ſpaſm to defect, of excitement.

Upon this reaſoning, it may be remarked, 1. That exceſſive excitement of veſſels conſiſts in exceſſive oſcillations—in the increaſe, not in the ſuppreſſion, of their healthy functions;

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tions; and 2. That to account for morbid alteration in the ordinary ſtate of any diſcharge, we ought to look for an alteration in the action of thoſe veſſels, by whoſe counteracting powers it is regulated in health. The ballance in the perſpiration depends on the cutaneous exhalants and abſorbents; but the properties of the lymphatic ſyſtem ſeem never to have ſtruck the imagination of Brown, though the inveſtigation was carried on with ſo much ardour during the period of his ſtudies; attention to theſe anatomical diſcoveries would have aſſiſted him in the full explanation of many diſeaſes, which, though they paſs under the ſame denomination, he has moſt juſtly claſſed as of a nature entirely oppoſite; the one ſthenic, the other aſthenic; but to make out this explanation, he muſt have acknowledged in theſe different vaſcular ſyſtems, ſome degree of inequality in the way in which they are affected by ſtimulants that operate on both. Thus if the power of abſorption be ſooner increaſed by the cauſes inducing the ſthenic diatheſis than that of exhalation, there is no occaſion to imagine any conſtriction to account for the

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the dryneſs of the ſkin and fauces. The conſequent more ſpeedy exhauſtion of excitability in the abſorbents, would likewiſe have ſuggeſted the rationale of that diſcharge that follows the ſtate of dryneſs or *huſkineſs* of the ſkin, fauces, or urethra, of the trachea and its ramifications, when theſe parts are affected by inflammation.

A great part of the ſymptoms of Brown's *aſthenic form of diſeaſe*, depend upon imperfect abſorption from indirect debility of the veſſels deſtined to that office; thus perſons whoſe lungs have been weakened by inflammation after a meal expectorate mucus. In this caſe the food excites the whole ſyſtem; the activity of the bronchial glands is increaſed, more mucus is ſecreted, and part becomes ſuperfluous, on account of the comparative inactivity of the abſorbents. *Quibus poſt inflammationem ſupereſt urethræ debilitas profluit mucus limpidus, poſtquam tenſus fuerit penis.* The reaſon is the ſame.

Had it been once allowed by Brown that the different conſtituent parts of the body, bear a different relation to the ſame agents, he muſt have admitted the operation of ſpecific

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cific ſtimulants to an unlimited extent. This however, would have deſtroyed the univerſality of his principles, which he conſidered as the great beauty of his ſyſtem; but his own opportunities of obſervation were probably too few, to force upon him a conviction of their inſufficiency; it is eaſy to exceed equity and prudence in refuſing to hearken to teſtimony, we may daily ſee ſpeculative men forgetting that philoſophy does not more conſiſt in petulant rejection of information than in credulity.

Of the Formation of the Brunonian Syſtem.

It is believed that hints thrown out by Cullen, were the ſeed from which Brown raiſed his doctrines.

The connexion between the two men, is doubtleſs favourable to the ſuppoſition of a communication of ideas, and it is confirmed by the circumſtantial evidence of a common term, from which the other terms, employed by Brown, might be conſtructed by an obvious analogy. The hints ſuggeſted by Cullen occur in the CXXXth, and ſome of the

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following paragraphs of his *Inſtitutions of Medicine.*

"It is," he ſays, "probable that the "nervous fluid in the brain, is truly capable "of different ſtates or degrees of mobility, "which we ſhall call its ſtates of *excitement* "and *collapſe*." In his youth, this author had imagined a mechanical hypotheſis reſpecting the nervous fluid, which he regarded with fondneſs through life, and unfolded with great prolixity in the decline of his powers (*b*). When he wrote the paſſage I have quoted, his thoughts were turned from the living body to an electrical machine; and he evidently does no more than deſcribe the common experiment, in which a congeries of flexible fibres is made to ſtand erect, and to diverge by electricity, and then ſhrinks together on the application of a conducting ſubſtance. His idea of excitement has therefore nothing in common with that of Brown; and, on compariſon, I am perſuaded it will appear that Brown was very little indebted to the phyſiology of his maſter.

A material correction of the Brunonian

(*b*). See his Materia Medica.

theory.

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theory, may be more ſafely aſcribed to one of Mr. Hunter's diſcoveries, than its origin to theſe obſcure opinions of Dr. Cullen. An intelligent writer, whoſe expreſſions beſpeak perſonal obſervation, gives the following account of the extent and occaſion of this correction. "In the firſt promulgation of "his doctrines, Dr. Brown did not ſuffi- "ciently diſtinguiſh between the actions of "the living body and its powers.—*Excite-* "*ment* and *ſtrength* were at firſt conſidered "by him as ſynonymous terms; and on the "ſtate of excitement, his diſtinction of diſ- "eaſes was entirely founded. To the laſt he "had but two claſſes; diſeaſes of increaſed "and diminiſhed excitement.

"After many diſcuſſions of his doctrine, "in which the diſtinction between the "powers and actions of the living body ".... was preſſed upon him, he adopted "the term *excitability* to expreſs the diſpo- "ſition to action, and to replace the terms "*irritability*, *ſenſibility*, and *inability*, which "he had diſcarded from his ſyſtem (*c*)."

An alteration of ſome conſequence reſpec-

(*c*). Engliſh Review for Oct. 1794, p. 282.

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ting diſcharges of blood, which was made in the interval between two Latin editions of his elements, is noticed by the author himſelf. What corrections and enlargement are further required, the curious reader may determine by a careful compariſon of the following ſyſtem, with the kindred ſyſtems of two contemporary authors; conſtant reference being had to nature at the ſame time.

Of Prediſpoſition to Diſeaſe.

Among a number of individuals equally expoſed to any cauſe of diſeaſe, we conſtantly find ſome affected, and others eſcaping. The circumſtances on which exemption and aptitude depend have been anxiouſly inveſtigated; and if we were well acquainted with the powers that favour and reſiſt morbific influences, we ſhould be able more effectually to accompliſh one of the two grand purpoſes of the medical art—the preſervation of health. But although facts have been noted, the principle lies involved in total obſcurity. Brown does not purpoſely elude the difficulty, but his principles lead him beſide it; and we may doubt whether the term *prediſpoſition* ought,

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ought, in ſtrict propriety, to have appeared in his Elements; for prediſpoſition is with him a ſlight diſeaſe, differing only in degree from that into which the perſon prediſpoſed falls. (Chapter VIII. Part I.).

Between thoſe actions of our different organs, and of the ſame organ which frequently occur together, or in ſucceſſion, a bond of union is formed by habit, as in the caſe of our ideas. Of any two movements, therefore, if the former tend to introduce the ſucceeding, the ſecond muſt take place, unleſs it be prevented by ſome interpoſing force. Hence it is manifeſt that robuſtneſs of conſtitution, principally conſiſts in the ſtrength of connection between the ſeveral members of the ſeries, and proneneſs to diſeaſe in the facility with which the ſeries may be broken. On this principle we may underſtand why brutes are more robuſt than the human ſpecies. Their actions both of body and mind are leſs diverſified than ours; and being in conſequence more frequently repeated in the ſame order, they acquire greater force of union, or, as it has been lately termed, *ſtrength of catenation*. It may deſerve to be conſidered whether the

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remarkable exemption of negroes from the contagious fevers that have lately raged in America and the Weſt Indies, and the comparatively ſmall mortality among them depend on their uniform life (*d*).

Perſons who have enjoyed uniformly good health, are ſaid to be in greater danger when they become ill; and in caſes where the opinion is juſt, we may deduce an explana-

(*d*). "Although the contagion ſeemed to vary much "in different deſcriptions of people, it is highly proba- "ble, that the virus of the contagion itſelf was uniformly "the ſame, only variouſly modified by peculiar conſti- "tutions, habits, or modes of living. Thus among "ſailors, perhaps a ſcorbutic taint, joined to extreme "irregularity and imprudence, rendered the diſeaſe in- "finitely more fatal than among any other claſs of men. "On the other hand, among field-negroes, who cer- "tainly poſſeſs an idio-ſyncracy peculiar to themſelves, "and whoſe mode of living is generally temperate and "regular in a remarkable degree, the virus of the conta- "gion was ſo blunted as to act in the mildeſt form. "Why, however, it ſhould operate with moſt violence "on Europeans juſt arrived, and who had never entered "the torrid zone before, is a ſingularity I do not pretend "to explain." Chiſholm on the malignant peſtilential fever which raged at Grenada in 1793, p. 130-1, one of the moſt fatal diſeaſes on record.

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tion of the apparent paradox from the ſame principle; for the diſturbance of the functions betrays the intervention of a powerful cauſe.

Are not the embryons of organized beings placed in their peculiar receptacles, that they may be ſecure againſt violent impreſſions, till the movements of their organs, by repetition, come to proceed with a ſteady pace, and the animal machine is mounted?

Pregnant and puerperal women are among the perſons moſt liable to be affected by the ſlighter cauſes of diſeaſe. In the former, from the great change of the ſanguiferous and glandular ſyſtems, new irritative and ſenſitive motions are perpetually introducing themſelves; and at the time of parturition, there is a ſudden diſſolution of all the newly formed aſſociations; at this critical period they require to be guarded with the niceſt vigilance from all ſudden changes of temperature, irregularities of diet, and exertions of body and mind.

In the tranſition from climate to climate, it is obvious that our habitual movements, eſpecially thoſe of the cutaneous veſſels of all denominations, muſt be thrown into total con-

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fuſion. In this ſtate of diſordered action, there can be no power of aſſociation or connection to protect the ſyſtem. It has alſo been univerſally obſerved, that contagious fevers are liable to make their attack after intoxication, when the whole internal man is tumult.

In the account of the Grenada fever, there is a ſcale to ſhew the gradation in which the natives of different countries, Africans, Americans, Creoles, and Europeans, aſſembled in that iſland, were liable to be infected and deſtroyed. This ſcale will ſerve as an illuſtration of the two laſt mentioned cauſes; a thouſand others are at hand.

" It is curious," ſays the writer, " and " may be uſeful to obſerve the gradation " of this fatal malady, with reſpect to the " various deſcriptions of people expoſed to " its infection. Neither age nor ſex were " exempted from its attack, but ſome were " more obnoxious to it than others, and the " colour had evidently much influence in de- " termining its violence. The ſcale of its " violence, or the gradation it obſerved with " reſpect to the different claſſes of the in- " habitants, appeared to be the following:

" I. Sailors,

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" I. Sailors, more eſpecially the robuſt " and young, thoſe leaſt accuſtomed to the " climate, and thoſe moſt given to drinking " new rum.

" II. Soldiers; more eſpecially recruits " lately from Europe, and the moſt intem- " perate.

" III. White males, in general, lately " arrived, more eſpecially young men from " Europe.

" IV. All other white males, more eſpe- " cially the lower claſſes; and of them, the " moſt intemperate, thoſe debilitated by re- " cent ſickneſs.

" V. White females, more eſpecially thoſe " connected with the ſhipping, and thoſe " lately from Europe.

" VI. People of colour, from Muſtees to " Cabres," (that is, I think, inverſely as the darkneſs of complexion).

" VII. Negro men, more eſpecially ſailors " and porters.

" VIII. Negro women, more eſpecially " houſe wenches.

" IX. Children, more eſpecially thoſe of " colour."

Infants,

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Infants, whoſe organic movements are not yet regulated by habit, ſeem to afford an exception to the rule of prediſpoſition. They are, it is ſaid, leſs liable to ſome contagious fevers; and when infected, their chance of recovery is much greater; the latter circumſtance has been noticed by various obſervers (*e*). If children were only leſs liable to be infected, the difference might be fairly ſuppoſed to depend on their not coming ſo often within the infecting diſtance; but after infection they are protected by ſome unknown peculiarity. Is the contagion weakened, when firſt ſwallowed by a diarrhœa, as was the caſe with ſome perſons who received the dangerous infection at the Black aſſizes at Oxford? Or has the gaſtric liquor of children, ſome power to render the poiſon inert? This inferiority of power in one or two particular contagions, to infect and deſtroy children, deſerves further enquiry.

Of the Depreſſing Paſſions.

There are ſeveral other opinions, which,

(*e*). See for inſtance, Campbell's *Obſervations on Typhus*, 1785, p. 55.

in

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in a complete reviſal of the Brunonian ſyſtem, would require particular examination; ſuch are his doctrine concerning hereditary diſeaſes, the peculiar ſeat of ſthenic inflammation, and the nature of the paſſions. This laſt ſubject is of great importance, and if, in treating it, Brown has failed, he has but ſhared the fate of other writers. The *mechaniſm of the paſſions*, or the ſtate of our different organs, while we are under their influence, has never been explained. If any proof be required of the general want of information on this ſubject, it may eaſily be produced. Writers, educated in different ſyſtems, and who cannot be ſuppoſed to have been miſled by the undiſtinguiſhing ardour of youthful enthuſiaſm, have found no better reſource than to adopt Brown's theory (*f*).

In fear, grief, and anxiety, ſome parts manifeſtly betray, by their paleneſs and coldneſs, diminiſhed exertion. Now as no two parts, according to our author, can be in oppoſite

(*f*). See Dr. Ruſh on the fever of Philadelphia, p. 31. "Fear debilitates only becauſe it abſtracts its antagoniſt "paſſion of courage."

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poſite conditions at the ſame time, what could he in conſiſtency do, but aſſert that the doctrine of heat and cold is exactly applicable to the paſſions (Part I. Chap. iii. n.)? In high ſpirits, therefore, we are to ſuppoſe ourſelves animated by ſomething correſponding to the warmth of ſummer; in tranquillity we are lowered by a ſubtraction of this mental ſtimulus down to temperate, and in grief we ſink to the freezing point; how far the common opinion varies from this of Brown, I cannot exactly ſay, becauſe I do not underſtand what particular change the words *depreſſing* or *ſedative* paſſions, are deſigned to indicate. When I try to aſſiſt my apprehenſion by ſome analogy, I find nothing in nature to help me out, but am obliged to think of certain paſſages in books of romance, where the enchanter is deſcribed as inducing a ſtate of permanent torpor by the motion of his wand. To diſcover whether any of the paſſions have a *benumbing* operation, does not appear very difficult; let us take a tranſient look into the mind of a mother ſorrowing for the loſs of her ſon, I aſk whether her ideas are more or leſs vivid than uſual? whether

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ther ſhe does not exert herſelf to recollect all he ſaid or did between the cradle and the grave? whether after minutely conſidering what he has been, ſhe does not ſet herſelf with equal earneſtneſs to fancy what he would have been? and whether every picture formerly drawn by hope, does not paſs again before her imagination, with the figures more ſtrongly illuminated, and more diſtinctly embodied?

" Grief fills the room up of my abſent child;
" Lies in his bed; walks up and down with
" me;
" Puts on his pretty looks; repeats his words;
" Remembers me of all his gracious parts;
" Stuffs out his vacant garments with his
" form;
" Thus have I reaſon to be fond of grief."

CONSTANCE *in the Play of King John.*

If this expreſſion of ſorrow be not too ſtrong, while an happy meeting is ſtill believed poſſible, it may be doubted whether the faculties of Shakſpeare or Schiller, ſtrained to their utmoſt pitch, are equal to that intenſity of thought which takes place when this hope is finally deſtroyed. Fear and anxiety excite images of equal vivacity with grief, and on conſidering the ſubject, it will appear that for theſe

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theſe ſtates of mind, *perturbation*, which occurs in the writings of the ancient philoſophers, is a far more apt term than *paſſion*. Had it not been for inaccurate language, which the author of the *Enquiry into the State of Medicine* juſtly calls the greateſt of all plagues in ſcience, the opinions I am inviting the reader to compare with nature, would probably never have exiſted, Neither ſhould we perhaps have been taught, that in grief the mind moves ſlowly—an aſſertion as diſtant from the truth, as if it ſhould be ſaid that animals in full chace of their prey, move more ſlowly than when they are not actuated by any appetite; for the eagerneſs, with which ſome train of ideas is purſued in penſive ſorrow, admits of a compariſon with hunting.

The excitability, therefore, is exhauſted by any paſſion or perturbation, in the ſame manner as by exceſſive excitement in other caſes. Whether temporary wearineſs, or irreparable debility ſhall enſue, depends upon the intenſity and duration of the exertions, made by the organs in action. The explanation of the difference between *weeping* and *tearleſs* grief, with the means of curing either and changing the latter (which is a much more

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more dangerous diſeaſe) into the former, depends on principles, not to be found in the following ſyſtem. In the preſent ſpecimen of criticiſm, it is the leſs neceſſary to enter upon theſe enquiries, as the public may ſoon expect better inſtruction on the pathological part of this ſubject than I am able to give.

Concluſion.

The Brunonian ſyſtem has frequently been charged with promoting intemperance; the objection is ſerious, but the view already given of its principles ſhews it to be groundleſs. No writer had inſiſted ſo much upon the dependence of life on external cauſes, or ſo ſtrongly ſtated the inevitable conſequences of exceſs. And there are no means of promoting morality upon which we can rely, except the knowledge of the true relations between man and other beings or bodies. For by this knowledge we are directly led to ſhun what is hurtful, and purſue what is ſalutary; and in what elſe does moral conduct, as far as it regards the individual, conſiſt? It may be ſaid that the author's life diſproves the juſtneſs of this repreſentation; his life, however, only ſhews the

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the ſuperior power of other cauſes, and of bad habits in particular, and I am ready to acknowledge the little efficacy of inſtruction, when bad habits are formed. Its great uſe conſiſts in preventing their formation, for which reaſon popular inſtruction in medicine would contribute more to the happineſs of the human ſpecies, than the complete knowledge of every thing which is attempted to be taught in education, as it is conducted at preſent. But though the principles of the ſyſtem in queſtion did not correct the propenſities of its inventor, it does not follow that they tend to produce the ſame propenſities in others.

The diſtinguiſhing merit of Brown is obvious; he avoided all falſe analogies, and confined himſelf within the proper ſphere of obſervation for a phyſician. Hence at a time when I could not be ſuſpected of that diſpoſition to diminiſh the faults, and magnify the excellencies of his ſyſtem, which my ſhare in the preſent publication may be ſuppoſed to produce; I was led to remark, that "if he has not always diſcovered the "truth, he is ſeldom forſaken by the ſpirit of "philo-

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"philoſophy (*g*)." Before him inveſtigations relative to medicine, had been carried on juſt as rationally as if to diſcover the qualities of the horſe, the naturaliſt were to direct his attention to the movements of a windmill. There exiſted no ſyſtem which was not either entirely, or in a great meaſure, founded upon the obſerved or ſuppoſed properties of ſubſtances, deſtitute of life. Thus Boerhaave taught that diſeaſes depend upon changes of the blood, ſimilar to thoſe which certain oily, watery, or mucilaginous liquors undergo; and I have already had occaſion to ſhew that Cullen referred the phænomena of life to an imaginary fluid, endowed with the ſame properties as the electric fluid; though of this the very exiſtence is ſtill problematical (*b*). His

(*g*). Observations on Calculus, p. 159.

(*b*). Mr. Hunter, who deserves so much praise for ascertaining facts, has been led astray in some of his attempts to establish principles, by a different, but a very curious species of delusion. In treating of that obscure subject, for instance, the coagulation of the blood, he observes that it sometimes takes place very quickly, as in mortification; but then "it is to answer some "good purpose, and arises from NECESSITY, which appears to "act as a stimulus in disposing the blood to coagulate." He adds that by "actions taking place from necessity, effects are "meant which arise from some unusual or unnatural change "going on in the parts, and become a stimulus to action. The

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predeceſſors having in this manner left MAN entirely out of their ſyſtems, or aſſigned him an unimportant place, Brown atchieved the important ſervice of reſtoring him to his proper ſtation in the centre. We have other obligations to him; but as I have already had occaſion to point out ſome of them in the courſe of theſe preliminary obſervations, and as the reſt will be diſcovered by an attentive peruſal of the following work, I ſhall leave the taſk of ſingling them out, and appretiating them to the impartial reader. In forming this eſtimate he ſhould have be-

" ſtimuli from this cauſe may vary exceedingly among them-" ſelves: but as we are unable to inveſtigate them, I have in-" cluded them under this general term, *ſtimulus of neceſſity.*" (*On the blood*, p. 24). It may be laid down as a rule in logic, that general terms ought never to be employed, unleſs we can ſubſtitute particular terms expreſſive of appearances in their place. Mr. Hunter confeſſes his ignorance of thoſe changes, which he comprehends under the phraſe, ſtimulus of neceſſity. It is manifeſt, therefore, that it refers to nothing cognizable by ſenſe; and his poſition amounts ſimply to this, *the blood coagulates becauſe it muſt coagulate.* This is not the only occaſion on which this ingenious anatomiſt has been betrayed into the myſticiſm of occult cauſes; and it would probably create ſome ſurprize in an ancient poet to find allegorical beings like NECESSITY and DEATH, figuring in a modern work among the principles of phyſiology. It is eaſy to excuſe Mr. Hunter for miſtaking nominal for real eſſences; but the example deſerves notice as it ſo clearly ſhews the extenſive utility of the philoſophy of words.

fore

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fore him, 1. The difficulty of emancipating the mind from the dominion of inveterate and accredited error. 2. The much greater difficulty of giving a new form to a complicated and obſcure ſcience.

Three years ago I had occaſion to obſerve, that the opinions of Brown had been ſo widely diffuſed by oral communication, as to affect the whole practice of medicine in Great Britain. In pamphlets recommending repeated doſes of opium to ſupport excitement, and in other publications, it would be eaſy to detect attempts to purloin his language and ideas; but it is unneceſſary, for though literature has always been infeſted by a race of pilferers, original genius has ſeldom been injured by their diſhoneſt practices. Brown cannot now be defrauded of his juſt reputation. His writings have lately been republiſhed (*k*), and are gaining credit on the continent of Europe. In America his ſuperiority to preceding ſyſtematic authors, appears to be acknowledged alike by ſtudents and profeſſors (*l*).

(*k*). See *Brunonis Elem. Med. cum Prefatione Petri Moschati.*

(*l*). See Rush on the yellow fever, and ſome inaugural diſſertations lately published at Philadelphia.

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To ſpeak of the dangerous influence of his ſyſtem on practice, I think as uſeleſs now as to detect plagiariſms. His diſciples have ſometimes diſgraced themſelves by that raſhneſs, which was too much the characteriſtic of his ſchool. But a cool peruſal of his work will not produce the effect of his animated, and ſometimes frantic prelections. What he has left can only inform or exerciſe the underſtanding; but he retains no power to inflame the imagination from the grave.

Since the preceding pages were printed, I have received further indubitable proofs of the ascendancy which the truths, promulgated by Brown, are gaining over men's minds in different parts of Europe. A translation of his "OBSERVATIONS" under the title of *Compendio della nuova dottrina medica di G. Brown* was published at Pavia in 1792. It has been since republished at Venice, and so has Moscati's Edition of the *Elementa*. The translation is by Dr. Rasori, who has prefixed a sensible introduction, and added many judicious notes. In a letter, accompanying a copy of his translation, Dr. Rasori says, "In the University "of Pavia, undoubtedly one of the first in Europe, there is "hardly a student, endowed with talents, who is not a Brunonian. The doctrine begins equally to spread in Germany. "Many of the periodical publications of that country have noticed it, and the *Elementa* have lately been published there. A "friend at Genoa assures me, that several surgeons to French "men of war have informed him, that Brown is known and "much admired in France. In the University of Pavia,

"Brown

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" Brown is in high esteem even with some of the most respect-
" able professors; and in other parts of Italy I can assert from
" my own knowledge that old physicians have not refused their
" sanction to many of the Brunonian principles."

A late pamphlet entitled *Jacobi Sacchi in principia Theoriae Bruneniae animadversiones*, but supposed to be written by Professor Carminati, affords ample confirmation of the account, given by Dr. Rasori. The first sentence runs thus: *Quaerenti mihi causas incredibilis prope illius commotionis animorum, atque ingentis ferè plausus, quibus nuperrimè singularis illa hypothesis, cui novum universae Medicinae systema celeberrimus Angliae scriptor & medicus* BRUNO *superstruxit, ab iis optimae spei adolescentibus excepta esset, qui in florentissimo Ticinensi Archigymnasio salutaris artis studiis omnibus mecum incumbunt, perarduum sane non fuit eas .... invenire.* After some pages of introductory matter, the author objects strongly to Brown's definition of *life—quod ideam* vitae *non in proprietate seu* incitabilitate, *sed in* actione *collocarit.* He adduces various instances in which organic bodies lose sense and motion, without losing their susceptibility of feeling and moving, when differently circumstanced. Professor Carminati, he says, having killed a cat by mephitic air, took out the stomach with the intestines, and exposed them to the influence of a frosty air in his court-yard. They lost by degrees their peristaltic motion, and were frozen stiff. Next day, they were put into warm water; and when they were thawed, the peristaltic motion returned, and lasted for a long time. This seems to be little else than a dispute about terms. The objector next controverts Brown's grand discovery—*omnia quae viventium partibus admoventur, sive interna sive externa sint, perpetuo* incitantia *esse.* He produces the application of cold bodies and blood-letting, as examples of effects produced on the living body otherwise than by stimulating. He forgets that it is the residuary heat and the residuary blood which Brown regards as stimulants, inferior indeed in efficacy but still stimulants. The effect of alkaline substances on acid generated in the stomach, and some other similar cases, are afterwards

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afterwards specified, as not comprehended under the general proposition. The author however seems aware that no Brunonian can want the wit to repel these objections. He mentions caustics as exceptions to the rule; he however allows that they are partly beneficial by stimulating, and omits to mention that part of their operation which is *not* stimulating. During this skirmishing, in which the adversary of Brown takes cares to retreat nearly as much as he has advanced, he appears to gain courage, for he now attacks the new system in its strongest post. Opium, he affirms, is a medicine which although it has some stimulating power, removes irritation *non eo, sed alio sibi proprio principio.* So are all sedatives. Under this head the power of opium to allay excruciating pain and restrain irregular motions is copiously exemplified; the writer seems to suppose that pain always implies excess of action, and convulsions excess of general power. He acknowledges that volatile stimulants remove *quasdam nervorum aegritudines, sed eas quae a vera debilitate procreantur.* At the close of this article an argument occurs, which I know not how the most determined Brunonian will answer. It is this; if there were no difference but in energy between opium and other drugs, it might be compensated by increasing the dose of these, which is contrary to experience.—An acute opponent would not, the reader may be sure, fail to bring forward the specific action of quick-silver, cantharides and other bodies; he even contends that universal stimulants by no means tend to evince that the *excitability* is one and indivisible, since they are compounds, and their several constituent parts may act upon several portions of the system. Brown was totally inattentive to the association of motions; and our Italian critic does not omit to take advantage of this imperfection. He quotes several instances of the sympathy of similar parts (as the decay of corresponding teeth), and argues from them in the following manner: *juxta diversas aut similes partes, sive sensilitas sive irritabilitas aut diversa aut similis seu aequalis est . . . Hinc ubi causa praedisponens, aut idem stimulus seu eadem causa occasionalis, quae in aliqua corporis sede morbum*

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bum intulit, ad aliam quoque similem deferatur, nascetur illico causa proxima, ejusque effectus, nempe morbus: quod quidem fieri non posset in diversa parte, licet eam quoque idem stimulus pertingat. Lastly, the author contends that Brown has improperly given the common name of *excitability*, to irritability and sensibility, properties essentially different.—The theory being thus dismissed, the practice of the Brunonian school is brought under examination. Frozen limbs, it is said, are to be warmed gradually, but only lest the vessels should be burst by the sudden expansion of their contents. So also, a small quantity of food is to be given to persons who have been long fasting, merely because the digestive powers are weak, and not to avoid violent excitement from accumulation of excitability. The writer protests equally against the use of small stimulants in *direct* debility, and of a stimulus nearly equal to that which has induced *indirect* debility, in cases of an opposite nature. On the latter principle, he thinks, the most powerful stimulants ought to be given in the most violent peripneumonics, and blood-letting to be avoided. Under the former head, he asks; *Quis ubi siphylis saevirat atrociter ejus sanationem, validioribus posthabitis mercurialibus, committet lenioribus?*—To prove the reality of contrary indications, the complication of true peripneumony with malignant petechial fever and other diseases, requiring the use of debilitating and strengthening means at the same time are adduced. Several pages are employed to shew that a low temperature is not debilitating and the converse. The Brunonians will easily shew by a few obvious distinctions, to how little purpose the author has laboured here. In conclusion, he points out what he deems absurdities in Brown's opinions concerning the itch, scurvy, epilepsy, and some other disorders.

But whatever justness there may be in some of these remarks, whatever errors Brown may have committed in the application of his principles, and however short his doctrines may fall of a perfect system of medicine, I will venture to predict that his credit on the continent will remain unshaken. The introduction of his

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his opinions will have a most beneficial influence upon those by whom they are adopted as well as upon those by whom they are rejected. Brunonians will not imitate the stupidity of the disciples of certain antient philosophers, but exercise their reason in expunging, adding and correcting, as experience shall dictate. With regard to Anti-Brunonians a recent example will explain my meaning. When Lavoisier first announced his system, the chemists who were most scandalized by it, found themselves obliged to revise their whole stock of facts and deductions; the immediate consequence was an entire change in their opinions. Though they would not go over to Lavoisier, they could not adhere to Stahl, but reluctantly abandoned half their errors. The dissemination of the Brunonian doctrine will bring about the same thorough lustration of opinions in medicine, and the most pernicious among the prevailing prejudices will be relinquished without a contest.

The reader may estimate what it is to have put so many nations into the right path of medical investigation. It is true, indeed, that we in Great Britain, suppose ourselves to have enjoyed the privilege of being purblind, while the eyes of foreigners were sealed to the agency of those causes that actuate animated nature; and would it not be a pity if we should lose our distinction? But though we should be outstripped in medicine by the awakened genius of France, or the enlightened industry of Germany, we shall not be without consolation: since in consequence of Brown's discoveries, our countrymen labouring under disorders, such as we cannot cure, stand a chance of profiting by the collective efforts of human ingenuity.

ERRATA.

Page lvii. line 13, for *would* read *could*.—P. lxvi.—viii —ix.—some ..... are wanting to mark the omission of clauses.—P. lxxii. l. 19, for *vows* read *avows*.—P. lxxiv. l. 12, for *solicited* read *elicited*.—P. lxxxviii. l. 16, for *then* read *with them*.—P. cxlv. l. 9, before *we* insert *and*.

TABLE

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ɔ ſupport the excitement. The reme- electricity, opium, æther, ſpirituous ɔark, ſnake root, camphor, rich ſoups,
ɔ diminiſh the excitement; which is to il ſtimuli, and employing ſlight or de- n bed, tranquillity of mind, bleeding, ke.
as above, to diminiſh the excitement,
grees, rarely occurs; in conſequence of leſs, ſo that the excitement commonly
increaſe the excitement. The remedies are exhibited for the cure of indirect nce, that here it is neceſſary to begin s, and increaſe it gradually.
ere the ſame as above, but ſtimuli muſt tiouſly.
ne ſame here alſo, but ſtill greater cau- tion of ſtimuli.

ID AND PUPIL,

SAMUEL LYNCH.

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THE ELEMENTS OF MEDICINE.

THE FIRST AND REASONING PART.

CHAP. I.

EXPLANATIONS.

Of medicine—Of health, good and ill—Of diſeaſes local and univerſal—Of prediſpoſition.

I. MEDICINE is the ſcience of preſerving the good, and of preventing and curing the ill, health of animals.

II. The application of this ſcience to vegetables, may be named Agriculture.

III. Good health conſiſts in a pleaſant, eaſy, and exact uſe of all the functions.

IV. Ill health conſiſts in an uneaſy, difficult, or diſturbed exerciſe of all or any of the functions. Diſeaſes come under this head.

V. Diſeaſes either extend over the whole ſyſtem, or are confined to a part; the former may not improperly be called univerſal or general, the latter local.

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VI. The former are always univerſal from their very commencement, the latter only in their progreſs, and that but ſeldom. The former are always, the latter never, preceded by prediſpoſition. The former proceed from an affection of the principle of life, the latter from local injury. The cure of thoſe is applied to the whole body, of theſe to the injured part.

VII. To the province of the Phyſician belong all univerſal diſeaſes, and as many of the local, as being at firſt limited to a part, afterwards affect the whole body, and aſſume, in ſome meaſure, the appearance of univerſal diſeaſes.

VIII. Prediſpoſition to diſeaſe is that ſtate of the body, which recedes from health, and approaches to diſeaſe, in ſuch a manner, as to ſeem ſtill within the boundaries of the former, to which, however, it bears only deceitful reſemblance.

IX. Theſe three ſtates of health, diſeaſe, and prediſpoſition, conſtitute the life or living ſtate of animals; to which that of vegetables is not diſſimilar, though more imperfect.

CHAP.

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CHAP. II.

Of life—Of the exciting powers, external and internal—Of excitability—Of excitement—Of ſtimuli.

X. IN all the ſtates of life, man and other animals differ from themſelves in their dead ſtate, or from any other inanimate matter, in this property alone; *they can be affected by external agents, as well as by certain functions peculiar to themſelves, in ſuch a manner, that the phænomena peculiar to the living ſtate can be produced.* This propoſition extends to every thing that is vital in nature, and therefore applies to vegetables.

XI. The external agents are reducible to heat, diet, and other ſubſtances taken into the ſtomach, the blood, the fluids ſecreted from the blood, and air. How poiſons and contagions come under the ſame view ſhall afterwards be explained.

XII. The functions of the ſyſtem itſelf, producing the ſame effect, are muſcular con-

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traction, ſenſe or perception, and the energy of the brain in thinking, and in exciting paſſion and emotion. Theſe affect the ſyſtem in the ſame manner as the other agents; and they ariſe both from the other and from themſelves.

XIII. If the property which diſtinguiſhes living from dead matter, or the operation of either of the two ſets of powers be withdrawn, life ceaſes. Nothing elſe than the preſence of theſe is neceſſary to life.

XIV. The property, on which both ſets of powers act, may be named *Excitability*; and the powers themſelves, *Exciting Powers*. By the word *Body*, is meant both the body ſimply ſo called, and alſo as endued with an intellectual part, a part appropriated to paſſion and emotion, or a ſoul: the uſual appellation in medical writings is *ſyſtem (a)*.

XV. The effects, common to all the exciting powers, are ſenſe, motion, mental exertion, and paſſion. Now their effects being

(a) No diſquiſition is here meant to be entered into, as religion is no where interfered with, but left to its proper guardians.

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the ſame, it muſt be granted, that the operation of all the powers is the ſame *(b)*.

XVI. The effect of the exciting powers acting upon the excitability, may be denominated *Excitement*.

XVII. Since ſome of the exciting powers evidently act by impulſe, and the identity of the effect of others implies the ſame mode of operation; and ſince they all poſſeſs a certain activity; they may be denominated ſtimulant, or ſtimuli.

α. Stimuli are either univerſal or local.

β. The univerſal ſtimuli are exciting powers, ſo acting upon the excitability, as always to produce ſome excitement over the whole ſyſtem. The appellation of univerſal, is convenient to diſtinguiſh them from the local.

(b) That is, ſince ſenſe, motion, mental functions, and the paſſions are the only, and conſtant, effects of the exciting powers, acting upon the excitability; and ſince theſe happen, whether one, or more, or all the powers, or whichever of them, act, the irreſiſtible concluſion, that ariſes in the mind, is, that, the effect of the powers being the ſame, the mode of operation of them all muſt be the ſame. This mode of reaſoning, which is certainly as juſt as it is new in medicine, will often occur, and, we truſt, will ſtand the teſt of the moſt ſcrupulous ſcrutiny.

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γ. The local ſtimuli act only on the part to which they are applied; and do not, without previouſly producing an affection in it, affect the reſt of the body.

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CHAP. III.

Of the nature of excitability—and exciting powers—Of poiſons—contagions—debilitating food—Of the ſedative or depreſſing paſſions—Of the nature and limits of excitement—Of its production—Succeſſion and ſubſtitution of ſtimuli—Treatment of exhauſted—and accumulated excitability.

XVIII. WE know not what excitability is, or in what manner it is affected by the exciting powers. But, whatever it be, whether a quality or a ſubſtance, a certain portion is aſſigned to every being upon the commencement of its living ſtate. The quantity, or energy, is different in different animals, and in the ſame animal at different times. It is partly owing to the uncertain nature of the ſubject, partly to the poverty of language, and partly to the novelty of this doctrine, that the phraſes of the excitability being abundant, increaſed, accumulated, ſuperfluous, weak,

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not well enough ſuſtained, not well enough exerciſed, or deficient in energy, when enough of ſtimulus has not been applied—tired, fatigued, worn out, languid, exhauſted or conſumed, when the ſtimulus has operated in a violent degree—at other times in vigour, or reduced to one half, when the ſtimulus has neither been applied in exceſs nor defect, will be employed in different parts of this work. Both upon this, and every other ſubject, we muſt abide by facts; and carefully avoid the ſlippery queſtion concerning cauſes, as being in general incomprehenſible, and as having ever proved the bane of philoſophy.

XIX. As there is always ſome excitability, however ſmall, while life remains, and as the action of the exciting powers always takes place in ſome degree, I conclude that they have all more or leſs of ſtimulant effect, and that this muſt be either exceſſive, in due proportion, or too ſmall. A great quantity of blood ſtimulates in exceſs, and, therefore, produces the diſeaſes that depend upon too much ſtimulus; but an under proportion of blood, though debilitating in its effect, and inducing the diſeaſes that depend upon debility,

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bility, muſt ſtill be underſtood to be ſtimulant; only ſo much leſs ſtimulant, as the penury is more conſiderable: The ſame concluſion applies to all the other exciting powers, though poiſons, contagions, and a few other powers, may to ſome ſeem exceptions. But

XX. Poiſons either do not produce the univerſal diſeaſes, which are our preſent ſubject: or, if they do, by producing the ſame effect as the ordinary exciting powers, their mode of operation muſt alſo be allowed to be the ſame (*a*).

XXI. Some contagions accompany diſeaſes depending on too much ſtimulus, as the ſmall pox and meaſles; others thoſe that conſiſt in debility, as the petechial typhus, the plague. If both theſe are the product, not of contagion alone, but alſo of the noxious ſtimulating powers, acting in conjunction, which

(*a*) This propoſition of frequent occurrence in this work, that identity of known effect always implies identity of cauſe though unknown, will be found to be a mode of reaſoning of equal ſervice in guarding our reader from the deceitfulneſs of abſtract reaſoning, and in leading him into a proper mode of inveſtigating ſolid and uſeful truth.

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is a fact aſcertained; the effect being the ſame, the concluſion is unavoidable, that the cauſe is alſo the ſame, and the mode of operation of both the ſame. It muſt, therefore, be admitted that the operation of contagions is ſtimulant (*b*). Moreover, no remedies, but thoſe that cure diſeaſes, produced by the uſual noxious powers, remove thoſe ſuppoſed to be induced by contagions. Finally, the great debilitating energy, obſervable in certain contagions, no more proves that *they* act differently from the ordinary noxious powers, than an equal or greater degree of debility ariſing from cold proves that *it* acts differently (*c*).

δ. It might appear to ſome, that certain kinds of food, not ſufficiently nouriſhing, and, therefore, of hurtful tendency; as alſo that emetics, and purgatives, and ſedative paſſions, as they are called, belong to the number of

(*b*) This is all that is contended for at preſent; the degree of their ſtimulus will be afterwards conſidered.

(*c*) At the freezing point, or below it, man, and ſimilar animals of warm blood, could not live a ſecond in a denſe medium, ſuch as that of water; but the animals of cold blood can.

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powers, the operation of which forms ſo many exceptions to the ordinary ſtimulant operation.

ε. Vegetable matter in general, when uſed alone for nouriſhment, is hurtful; it is ſo, at leaſt, to thoſe who have been accuſtomed to better fare, and that by a debilitating operation; yet even vegetable food, ſince it ſupports life, however poorly, longer than a total want of food, muſt, of courſe, be ſtimulant. But, if aſthenic diſeaſes, in ſome inſtances, ariſe from vegetable food, and not always from faſting; this muſt be owing to a certain change produced in the ſyſtem, by which the ſum total of ſtimuli is rendered leſs fit to act upon the excitability. That this is the caſe, is proved by the moſt ſtimulant food loſing part of its effect by continued uſe, and requiring the ſubſtitution of another ſtimulus in its place, to produce equal excitement.

ζ. The operation of emetics and purgatives is alſo to be explained, as diminiſhing the ſum total of excitement; which is ſupported, either by ſome affinity between the exciting power and the excitability, or by agreeable ſenſation. That it is ſometimes the affinity,

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ſometimes the ſenſation, is evident from the occaſionally hurtful effect of things moſt grateful to the ſenſe, as the legumina, and other articles of vegetable food; and from the ſalutary effect of diſagreeable things, as the ſeveral forms and preparations of opium: Both which produce their effect, the former by a debilitating, that is, an inſufficiently ſtimulant, the latter by a conſiderably ſtimulant, operation (*d*).

η. The

(*d*) Suppoſe a certain power, as 40, to mark the degree, in which the ſum total of proper ſtimulant operation conſiſts, and the excitement, produced to that degree, to ariſe from different exciting powers, all of them conducing to the ſame effect, by the operation of each having a proper affinity to the excitability, or producing an agreeable ſenſation; the inference to be drawn is, that a certain ſuitableneſs in the mixture of the whole to the excitability, as well as the degree of ſtimulus, produces the effect. Again, ſuppoſe certain ingredients, which cannot be denied to be ſtimulant, added to this mixture, the effect of the added article will be one of two: it will either increaſe the excitement firſt produced, without altering the agreeable ſtate which that had induced; or it will, ſtill without any reaſon for ſuppoſing it not ſtimulant, diminiſh the excitement that had ariſen from the combination of the agreeable articles. And this will happen merely from the effect of a diſcordant

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η. The ſedative affections, as they are called, are only a leſs degree of the exciting ones. Thus fear and grief are only diminutions, or lower degrees, of confidence and joy, not paſſions different in kind. The news of gain produces joy, and grief ariſes from the loſs of money. Here then no operation of a nature contrary to ſtimulant takes

a diſcordant combination of exciting powers, while that, which diminiſhes the exciting effect of the others, as well as theſe others, that conſtituted its given ſum, are both ſtimulant; but the former in a higher, the latter in a lower degree, and therefore acting over all as debilitating powers. Muſtard taken with meat, or onions with beef-ſteaks, are agreeable to moſt taſtes; but they are, though ſtill ſtimulant, diſagreeable to others, and debilitating. Peas-ſoup and peas-pudding, though, independent of the animal juice infuſed into them, they are far from being ſalutary, will be well borne by many; while in others, eſpecially thoſe who have been accuſtomed to more ſtimulant meals, and in perſons who are gouty, and liable to complaints of the firſt paſſages, they will produce morbid affection. The ſame thing is to be ſaid of beef-ſteaks with onions, which agree with the healthy ſtate, and diſagree with the unhealthy ſtate of the firſt paſſages. With regard to all theſe enfeebling matters, there is no queſtion about their being ſtimulant; the whole effect is to be referred to their rendering a mixture, ſtimulant in a certain degree, leſs ſo....

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place; it is nothing but a diminution, or inferior degree, of ſtimulant operation. The ſubject of the paſſions admits of the ſame reaſoning in every reſpect as that of heat *(e)*; and in the ſame manner all the bodies in nature, that ſeem to be ſedative, are debilitating, that is, weakly ſtimulant; inducing debility by a degree of ſtimulus greatly inferior to the proper one.

XXII. Since the general powers produce all the phænomena of life, and the only operation, by which they do ſo, is ſtimulant; it follows, that the whole phænomena of life, every ſtate and degree of health and diſeaſe, are alſo owing to ſtimulus, and to no other cauſe.

XXIII. Excitement, the effect of the exciting powers, the true cauſe of life, is, within certain boundaries, proportional to the degree of ſtimulus. The degree of ſtimulus, when moderate, produces health; in a higher degree it gives occaſion to diſeaſes of exceſſive ſtimulus; in a lower degree, or exceſ-

(e) The doctrine of cold as an active power, and oppoſite to heat, is now univerſally rejected, and it is conſidered as only a diminution of heat.

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ſively weak, it induces thoſe that depend upon a deficiency of ſtimulus, or debility. And, as excitement is the cauſe both of diſeaſes and perfect health; ſo that which reſtores the morbid to the healthy ſtate, is a diminution of excitement in diſeaſes of exceſſive ſtimulus, and an increaſe of excitement in diſeaſes of debility. Theſe intentions are called Indications of Cure.

XXIV. This mutual relation obtains betwixt excitability and excitement, that the more weakly the powers have acted, or the leſs the ſtimulus has been, the more abundant the excitability becomes; the more powerful the ſtimulus, the excitability becomes the more exhauſted.

XXV. A mean ſtimulus, acting on a mean or half conſumed excitability, produces the higheſt excitement. And the excitement becomes leſs and leſs, in proportion either as the ſtimulus is applied in a higher degree, or as the excitability is more accumulated. Hence the vigour of youth, and the weakneſs of childhood and old age. Hence, within a ſhorter period, a middle diet will produce vigour,

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vigour, and exceſs, or abſtemiouſneſs, debility.

XXVI. Every age, therefore, and every conſtitution, if the excitement be properly directed, has its appropriate degree of vigour. Childhood, and that weakneſs, which depends on abundant excitability, admit of little ſtimulus; by leſs than the due proportion it is rendered languid, by more it is oppreſſed. Old age, and that weakneſs, which is occaſioned by a deficiency of excitability, require a great deal of ſtimulus, become enfeebled by leſs, and are overſet by more. The reaſon of the latter phænomenon is, that the excitability, without which no vital action is produced, does not exiſt in the degree neceſſary to vigour of the functions; while the former is to be explained from the exciting or ſtimulant power, without which the excitability lies dormant, not being applied in the degree requiſite to vigour. The failure of ſtimulus may be ſuch, as to produce death. On the contrary, the exhauſtion of excitability may go ſo far, as to extinguiſh life by the extreme exceſs of ſtimulus.

XXVII. The circumſtances, under which excitement

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excitement is produced, have two boundaries.

XXVIII. One of theſe is, exhauſtion of the excitability from violence of ſtimulus. For all the ſtimulant powers may carry their energy to the degree, under which no excitement will ariſe. The reaſon is, that the body becomes no longer ſuſceptible to the operation of ſtimulus; another expreſſion for which is, that the excitability is conſumed.

XXIX. The ceſſation of excitement, from the exhauſtion of the excitability by ſtimulus, may be either temporary or irreparable: it may ariſe either from the ſhort continuance of a ſtrong ſtimulus, or the long application of one more moderate. Both caſes come to the ſame; the ſtrength of the ſtimulus compenſating for the ſhortneſs of its application, and the length of its application for its greater moderation in degree. A force of ſtimulus as ſix operating for a ſpace of time as one; and a force of ſtimulus as one operating for a ſpace of time as ſix, will produce the ſame effect in wearing out the excitability. The effect of the former is ſud-

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den death; of the latter a more gradual death preceded by diſeaſes. And though a moſt exact meaſure of excitement be kept up, yet death at laſt, however late, will ſupervene.

XXX. Ebriety, debauch in eating, ſweat, languor, heat, either alone or ſucceeding to cold, dulneſs of mental exertion from exceſſive thinking, depreſſion of mind from violence of paſſion, finally, ſleep; are all conſequences of the ſhort application of a high degree of ſtimulus, operating an exhauſtion of excitability. The long continuance of leſs exceſſive ſtimuli is followed by the feebleneſs of old age, by prediſpoſition to diſeaſes of debility, as well as thoſe diſeaſes themſelves. The termination of both is in death.

XXXI. When the excitability is waſted by any one ſtimulus, there is ſtill a reſerve capable of being acted upon by any other. Thus a perſon, who has dined fully, or is either fatigued in body, or tired with intellectual exertion, and therefore has a diſpoſition to ſleep, will be refreſhed by ſtrong liquors; and, when theſe have produced the ſame ſleepineſs, the more diffuſible ſtimulus

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mulus of opium will arouſe him *(f)*. Even after opium fails, and leaves him heavy and oppreſſed, a ſtimulus ſtill higher and more diffuſible, if there be any ſuch, will have the ſame effect. A perſon fatigued with a journey will be roufed by muſic to dance and ſkip; and he will be enabled to run after a

(f) A gentleman, engaged in a literary compoſition, which required an uninterrupted exertion of his mental faculties for more than forty hours, was enabled to go through it with alacrity, by ſupporting himſelf in this manner. After dining well and ſetting to buſineſs, he took a glaſs of wine every hour. Ten hours after he ate ſomething nouriſhing, but ſparing in quantity, and for ſome hours kept himſelf up with punch not too ſtrong. And, when he found himſelf at laſt like to be overcome by an inclination to ſleep, he changed all his ſtimuli for an opiate; and finiſhed his buſineſs in forty hours. What he had wrote was now to be put to the preſs. He had next to watch and correct the proofs, which coſt him between four or five hours further continuance of vigilance and activity. To effect this he took a glaſs with the maſter printer, while his men were going on with their part of the work. The ſucceſſion of ſtimuli in this caſe was firſt food, next the ſtimulus of the intellectual function, then wine, then the food varied, then punch, then opium, then punch and converſation.

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flying beauty, if ſhe fly ſo as to leave him hopes of overtaking her.

XXXII. The exhauſtion of excitability, by ſucceſſive ſtimuli, is moſt difficultly repaired; becauſe the more ſtimulant operation has been employed, that is, the more ſtimuli have been applied, there remains the leſs ſuſceptibility to freſh ſtimuli, by which the failure of excitement might be removed.

XXXIII. The reaſon of the difficulty is, that no means of reproducing the healthy ſtate, or the proper degree of excitement, are left; except thoſe that occaſioned the waſte, that is, an exceſs of ſtimulant operation, rendering the body leſs and leſs ſuſceptible of ſtimulus.

XXXIV. After this waſte of excitement, there is danger of ſpeedy death, unleſs proper meaſures be taken to preſerve life by a powerful ſtimulus, but leſs than that which occaſioned it, and then by one ſtill leſs, till by means of the moderate ſtimulus, that is ſuitable to nature, or one ſomewhat greater, life may at laſt be ſecured. The difficult cure of drunkards and gluttons, affected with diſeaſe, ſufficiently evinces, that this conſi-

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deration applies to all the exciting powers that ſtimulate in exceſs. This propoſition applies to the moſt difficult part of the practice of medicine.

XXXV. The excitability thus exhauſted by ſtimulus conſtitutes *debility*, which may be denominated *indirect*, becauſe it does not ariſe from defect, but exceſs of ſtimulus.

XXXVI. Through the whole progreſs to indirect debility, the ſecond application of every ſtimulus has leſs effect than the firſt, the third leſs than the ſecond, and ſo forth to the laſt, which produces no more excitement; this effect takes place in proportion to the degree or duration of the ſeveral applications, though each gives ſome excitement. Hence, before the eſtabliſhment of indirect debility, and juſt as it is upon the eve of being eſtabliſhed, the ſtimulus which is producing it, ſhould be withdrawn; a debilitating power ſhould be applied; as in giving over drinking wine at the end of an entertainment, and ſubſtituting water in its place, or applying cold to a perſon who has

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been expoſed to an exceſſive degree of heat (*g*).

XXXVII. The progreſs to indirect debility is alſo retarded by diminiſhing the excitement from time to time, and proportionally increaſing the excitability, and thereby giving more effect to the action of ſtimuli. Take for example, cold bathing, or lowering the diet from time to time, or a ſimilar abatement of other ſtimulant powers.

θ. If cold ſometimes ſeems to ſtimulate, it produces this effect, not as actual cold, but either by diminiſhing exceſſive heat, and reſtoring the proper ſtimulant temperature (*h*), or

(*g*) A convaleſcent from a diſeaſe of debility was preſcribed wine, but not to carry it to exceſs. A hiccup was the ſignal, by which he was to underſtand, that he had carried that ſtimulus too far. He deſiſted, and ended his jollity with two or three tumbler glaſſes of water; which prevented the eſtabliſhment of the indirect debility into which he was about to fall.

(*h*) The principle upon which the operation of the cold bath depends has never been underſtood, and therefore all reaſoning, as well as practice, with reſpect to it, has been conducted in quite a vague and random manner. Suppoſe a range of excitement, the middle and healthy point of which is 40 degrees of excitement, the

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or by rendering the body acceſſible to air, or by accumulating the excitability diminiſhed by exceſſive ſtimulus, and heightening the effect of the exciting powers, before acting too languidly. An inſtance of this operation of cold occurs in the torrid zone, where actual cold is ſcarcely to be procured; in the uſe of refrigerants, as they are called, in fevers; and in the contraction, by means of cold, of the ſcrotum previouſly relaxed by

the ultimate degree of its exceſs 70. It is, therefore, the intermediate degrees between theſe extremes, to which the practice of cold bathing is applicable. From 80 to 70, the former of which is the head of the ſcale, and conſtitutes the range of indirect debility; and likewiſe through all the intermediate degrees from 40 down to 0, the cold bath, which is a weakening power, as well as every other, is improper. It is a miſtake prevalent among ſyſtematic writers and lecturers, that cold is of ſervice in the fevers and other diſeaſes of the torrid zone. The truth is, that, in that country, there is no acceſs to the uſe of actual cold. All that can be done there is, by various means, to diminiſh the exceſs of heat, which is conſtantly ruſhing from thoſe degrees of it which ſtimulate and excite, to thoſe, in which its ultimate ſtimulant power deſtroys excitement, and leaves nothing but indirect debility.

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heat. Nay, ſuch is the efficacy of this cauſe, that ſthenic diſeaſes may be more certainly produced by cold, alternating with heat, and either preceding or following it, than by pure heat.

XXXVIII. The other condition or circumſtance, limiting excitement, is, a ſtate of the exciting powers inſufficient to produce excitement. As this caſe ariſes from deficiency of ſtimulus, and abundant excitability, it ought to be diſtinguiſhed from the other, which ſuppoſes abundance of ſtimulus, and deficiency of excitability. This diſtinction is required alſo for the purpoſe of practice. All the exciting powers may fall ſo far ſhort in ſtimulant force, as to produce this effect. They all, therefore, equally ſerve to illuſtrate and confirm this propoſition.

XXXIX. In this caſe, the excitability becomes abundant, becauſe, in conſequence of the ſtimuli being withheld, it is not exhauſted. Thus, in the cold bath, the excitement is diminiſhed, becauſe the ſtimulus of heat is reduced, and, therefore, the ſum of all the ſtimuli falls ſhort; ſo that the excitability, being leſs exhauſted by ſtimulus, is increaſed (*i*). The

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(*i*). The ſame concluſion applies to famiſhed perſons, to water drinkers, to thoſe who are in

(*i*) This is altogether a negative circumſtance. The accumulation, increaſe, or abundance of excitability, take any term you pleaſe, is not occaſioned by any action or operation, but by the want of action, the want of operation. To form an adequate idea of it, ſuppoſe a ſcale of excitability of 80 degrees, as in the line here drawn.

EXCITING POWER.

0 10 20 30 40 50 60 70 80

EXCITABILITY.

80 70 60 50 40 30 20 10 0

At the commencement of life, the ſum total aſſigned is underſtood to be 80, becauſe no part, as yet, is waſted by the action of ſtimuli. Next it is waſted in proportion as theſe are applied from the beginning to the end of the ſcale. Its waſting is, therefore, owing to action and operation, but its accumulation to the reverſe, the want of the action or operation of the exciting powers, as is expreſſed by the numbers placed above thoſe firſt mentioned. Thus one degree of exciting power applied takes off one degree of excitability, and every ſubſequent degree impairs the excitability in a proportion exactly equal to its degree of force. Thus a degree of ſtimulant or exciting power equal to 10, reduces the excitability to 70; 20 to 60; 30 to 50; 40 to 40; 50 to 30; 60 to 20; 70 to 10; 80 to 0. And on the contrary, the

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in a ſtate of refrigeration from other cauſes, to thoſe who have ſuffered evacuations of any kind, to thoſe who have neglected the ſtimulus of exerciſe, to thoſe who have neglected the uſe of that ſtimulus, which exerciſe of the mind affords, and to perſons in low ſpirits. The withdrawing of any ſtimulus is the more likely to produce direct debility, as the perſon has been accuſtomed to a higher degree of it (*k*). Take, for an example, the gout,

the ſubtraction of ſtimulant power allows the excitability to accumulate. Thus, when the excitement is at 79, conſtituting only one degree of life, take off one degree of exciting power, and two degrees of excitability will ariſe. As 80 degrees of exciting power leave no excitability, ſo 70 degrees of exciting power leave 10; 60 20; 50 30; 40 40; 30 50; 20 60; 10 70; 0 80. Hence death takes place from nothing poſitive, but from the negation of the only means by which life is ſupported; which are the ſeveral exciting or ſtimulant powers, now fully explained.

(*k*) For inſtance, perſons accuſtomed to drink wine, and eat well-ſeaſoned nouriſhing animal food, will be more hurt by a water and vegetable regimen, than thoſe who have not lived ſo high in that reſpect. The inhabitants of Britain could not live long upon the diet of the Gentoos. Perſons in genteel life could never undergo the work of day labourers upon their fare.

and

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and many other diſeaſes, which, under the ſame circumſtances, affect ſome, and ſpare others (*l*).

XL. During the increaſe of excitability, the excitement proportionally decreaſes, nor is there any caſe, in which this proceſs, carried far enough, will not produce death. This is confirmed by the effect of all the debilitating powers, mentioned above; every individual of which, as often as it proves urgent, has a rapid tendency to produce death.

XLI. The defect of any one ſtimulus, and the proportional abundance of excitability, are for the time, compenſated by any other ſtimulus, and often with great advantage to the ſyſtem. So a perſon, who has dined inſufficiently, and therefore has not been well enough ſtimulated, is refreſhed by a piece of good news.

(*l*) Vegetable aliment, and fruits and cold roots, as cucumbers, melons, acid drinks, and many other things not ſufficiently ſtimulant, will bring on a fit of the gout, all or any one of them, at any time; while there are other perſons free from the taint which diſtinguiſhes that diſeaſe, who can uſe them with impunity, or, at leaſt, with much more freedom and leſs harm. Something ſimilar to this obſervation applies to moſt diſeaſes.

Or,

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Or, if during the courſe of the day, he has not been ſufficiently invigorated by the ſtimulant operation of corporeal or mental exerciſe, and is conſequently likely to paſs a ſleepleſs night, he will be laid aſleep by a doſe of ſtrong liquor. When the latter is not at hand, opium will ſupply its place. The want of the venereal gratification is relieved by wine, and the want of the latter is made amends for by the uſe of the former, each baniſhing the languor occaſioned by the want of the other. The ſame concluſion applies to the uſe of thoſe ſtimuli, for which we have an artificial, rather than a natural, craving. The longing for ſnuff, when it cannot be gotten, is gratified by the practice of chewing tobacco; and, when any one is languid for want of tobacco to chew, ſmoaking ſupplies the place of it. Nay, when the functions, as they often do, have undergone a temporary leſion, and on this account there is no acceſs to the uſe of certain cuſtomary and natural ſtimuli; the ſubſtitution of others, leſs habitual, and leſs natural, will ſupport life, till the deſire for the natural ſtimuli is reſtored, and theſe can be

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be employed to ſupport the natural vigour as uſual, and health is finally eſtabliſhed (*m*).

XLII. As, in this manner, the ſuperabundance of excitability, proportioned to the deficiency of ſtimulus, may, through all the degrees from its ſmalleſt to its greateſt quantity, be worn out to a certain extent, by one ſtimulus, and then another, and the danger of its morbid accumulation be warded off, till the ſum be brought down to that, which is ſuitable to health; ſo, the more abundant the excitability is, that is, the more ſtimuli are withdrawn, or the greater the failure of the moſt powerful ſtimuli is; the leſs it is in our power to maintain that mediocrity of excitability on which the vigour of life depends. So much debility may be induced and excitability ſo far accumulated, that the reſtoration of excitement ſhall become impracticable. This propoſition is both illuſtrated and confirmed by the action of every debilitating

(*m*) This propoſition is of the utmoſt importance, as holding out the true principle, upon which ſo many actions and feelings of human life, both in health and diſeaſe, are to be explained, and particularly as laying down an indication, which applies to $\frac{19}{20}$ths of all febrile diſeaſes, and includes our artificial as well as our natural deſires and appetites.

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power, as cold, famine, thirſt; and it is exemplified in fevers.

XLIII. This ſuperabundant excitability ſo ſpeedily brings on death, that the only means of reſtoring health is firſt to encounter it with a very ſmall doſe of diffuſible ſtimulus, a doſe ſcarcely exceeding the ſcanty portion of ſtimulus, that occaſioned it: after waſting a part of the ſuperabundance, we may proceed to a ſomewhat ſtronger doſe; and thus be conſtantly taking off whatever ſuperfluity ſtill remains, till at laſt the ſalutary mediocrity is regained. This ſtate is the converſe of that debility, which ariſes from a worn-out excitability (*n*), and the danger accruing from it. To give examples, a famiſhed perſon is not immediately to be gratified with a full meal; a perſon afflicted with long continued or exceſſive thirſt is not immediately to be indulged with a large draught; but food ſhould be given bit by bit, and drink drop by

(*n*) An inſtance of a worn-out excitability is that debility which ariſes from intoxication; one of an accumulated excitability is that which dram-drinkers experience the day after a debauch, in conſequence of which their handsſhake till they are re-excited by their favorite cordial.

drop,

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drop, then both of them by degrees more plentifully. A perſon benumbed with cold ſhould be gradually warmed. A perſon in deep ſorrow ſhould have good news gradually communicated to him. The news of the ſafety of the Roman ſoldier, who ſurvived the diſaſter of his countrymen at Cannæ, ſhould have been communicated to his mother in a round-about way; at firſt as having no better foundation than doubtful report; then as being ſomewhat more to be depended on; afterwards as being ſtill more probable; then as not admitting a ſhadow of doubt: and laſt of all, before he was introduced, the mother ſhould have been at the ſame time fortified, or had a part of her very abundant excitability taken off, by other ſtimuli, and a glaſs of Falernian wine.

XLIV. Since life is ſolely the effect of ſtimulus; which alſo produces diſeaſe in proportion to its exceſs or defect, the remedies of both theſe deviations from the proper ſtandard ſhould be accommodated to their degree; and a large ſum total of ſtimulus, through the courſe of the diſeaſe, muſt be applied to a great degree of debility, or, what comes

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comes to the ſame thing, to a very abundant excitability; but the quantity to be applied at any one time ſhould be ſmall, in the ſame proportion as the excitability is abundant.

XLV. The debility ariſing from defect of ſtimulus may be called DIRECT; becauſe it is not produced by any poſitive noxious power, but by a ſubduction of the things neceſſary to ſupport life.

XLVI. Through the whole courſe of direct debility, every deficiency of ſtimulus is increaſed by a ſecond, the ſecond by a third, the third by a fourth, till the effect at laſt comes to be a ceſſation of any further excitement. Excitement therefore, is never to be leſſened, and debility increaſed, with the view of giving greater effect to a new ſtimulus by accumulating excitability. For, as often as this is put in practice, the morbid ſtate is increaſed; and, if the debility ſhould happen to be great, any further increaſe may induce death, but will never increaſe the ſtrength. For, though debility may be induced in this way at pleaſure, the exitement to be obtained from a ſtimulus to be applied after is confined within narrow bound-

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boundaries (*o*). Take for an example, cold bathing in dropſy; in the gout; in fevers (*p*); in perſons who, previous to this, have been much expoſed to cold; or in any ſort of debility. Who would treat faſting, deep ſorrow,

(*o*) Suppoſe, that in place of an excitement of 40 degrees, the excitement is gone down to 30, and the excitability mounted up to 50, and a debilitating power, ſuch as the cold bath, or any of thoſe that are juſt now to be mentioned in the text, has been ſuperadded, reducing the excitement to 25, and accumulating the excitability to 55. Suppoſe alſo, that any ſtimulus is next employed, with a view to raiſe the excitement, and ſink or reduce the excitability; what will be the reſult? As an accumulated excitability admits of a very ſmall degree of ſtimulus at any given time, while the accumulation of excitability, and ſinking of excitement, even to death itſelf, can be effected in the ſhorteſt ſpace of time, and by any one of the debilitating powers; conſequently, the loſs of vigour by the firſt practice, and the reparation of it by the laſt, will bear no proportion to one another; there will be no poſſibility of regaining the vigour thrown away, much leſs any hope of procuring more than exiſted before it was lowered.

(*p*) By fevers here are meant thoſe diſeaſes, ſo named, which depend on evident debility, and not any of thoſe which, though moſt injudiciouſly ſo named, depend upon an oppoſite cauſe. Inſtances of the former we have in

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ſorrow, weakneſs of the mental functions, languor from inactivity, penury of blood, which are all caſes of direct debility; who would treat ſuch caſes, I ſay, by ſuperinducing more direct debility, with a view to advantage from the very ſcanty ſtimulus, that can be admitted? The accumulation of excitability is only proper where there is a predispoſition to indirect debility, or aſthenic diatheſis.

XLVII. With reſpect to the two kinds of debility, we muſt never attempt the cure of the indirect by the direct, or of the direct by the indirect, in the vain hope of obtaining benefit from the ſubſequent employment of any ſtimulus. Indirect debility appears in the range of ſcale from 70 up to 80; the direct, in all the degrees below 40 to 0. The only caſes, that admit of debilitating operation, are thoſe of exceſſive excitement from 40 up to 70. For

all the fevers of the intermittent or remittent kind, in ſynochus, typhus, and the plague itſelf, with others that have never been conſidered as fevers. Examples of the latter occur in ſynocha, or the common inflammatory fever, in the ſeveral diſeaſes of the ſame ſtamp accompanied with inflammation in a particular part, as in the throat, lungs, and various parts of the external ſurface.

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the cure of diſeaſes within this latter range, all the directly debilitating powers are proper, and, for the moſt part, they only; becauſe there is no acceſs to the uſe of the indirectly debilitating powers, till they have run their full courſe of ſtimulant operation from 40 to 70, at which laſt only they become debilitating; and, though ſometimes, and under certain circumſtances, they may be employed, the ſafeſt general rule is to avoid them.

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CHAP. IV.

Of the ſeat and effects of excitability—Of the inequality with which different powers affect the ſyſtem—Which parts moſt affected—Proportion of the partial to the general affection—What parts the ordinary powers moſt affect—Partial and local affections ſimilar and ſynchronous—Remedies do not act partially.

XLVIII. THE ſeat of excitability in the living body is the medullary nervous matter, and muſcular ſolid; to which the appellation of *nervous ſyſtem* may be given. In this the excitability is inherent, but is not different in different parts of its ſeat. This is evident, becauſe the exciting powers will immediately rouſe into exertion any of the functions that diſtinguiſh living animal ſyſtems; or, in other words, produce ſenſe, motion, thought or paſſion (*a*).

1. Different

(*a*) If a ſmall quantity of an opiate, or a large one of any ſtrong ſpirit, taken into the ſtomach, can inſtantly alleviate

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4. Different exciting powers are applied to different parts of the nervous ſyſtem, none to them all at once; but the mode of their action is ſuch, that, wherever they are applied, every one immediately affects the whole excitability.

XLIX. Every one of theſe powers always affects ſome one part more than any other, and different powers affect different parts in this unequal manner. The affected part is

viate an excruciating pain in a part the moſt diſtant from that to which the remedy is applied, and, in a ſhort time after, remove it altogether, as is now well known, how is that to be explained but by the above propoſition; it being impoſſible to pretend that it is carried in the veſſels? Nor is any other of the many hypotheſes, that have been thought of for the ſolution of this fact, more admiſſible. Should it be imagined, that it moves along the nerves according to the laſt opinion, we demand proof of that aſſertion; which has not yet, and will not eaſily be produced; while the fact juſt now aſſigned carries its own demonſtration in its boſom. The queſtion reſolves itſelf wholly into the following ſolution: Why does opium at once relieve the gout in the ſtomach, on the external ſurface, and in the remoteſt extremity of that ſurface? Becauſe the property in the living ſyſtem, upon which and by which it acts, is one and the ſame ove ll.

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generally that to which the power is directly applied.

κ. Moreover, the more excitability was aſſigned to any part originally, that is, the more vivid and ſenſible it is, the operation of each exciting power, whether acting with due force, or in exceſs, or in defect, is the more conſiderable (*b*). Thus the brain and alimentary canal poſſeſs more vivid excitability, that is, more propenſity to life, than other internal parts; and the parts below the nails, than other external parts.—Nevertheleſs, the affection of the part bears no proportion to that diffuſed over the whole body.

L. An eſtimate may be formed of the degree of affection in the part moſt affected, and of that which is diffuſed over the whole body, by comparing the affection of the former with as many leſs affections, taken together, as there are equal parts in all the reſt

(*b*) That is to ſay, if the exciting power acts with that force which produces health, the degree of its action is greater upon the given than any other part; as alſo when its action is either greater or leſs than that of the middle ſalutary degree.

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of the body. Suppoſe the greater affection of a part (*c*) to be as 6, and the leſs affection of every other part to be 3, and the number of the parts leſs affected to amount to 1000; which is keeping greatly within the truth. The ratio of affection confined to the part, to the affection of all the reſt of the body, will be as 6 to 3000. That this eſtimate is accurate, or nearly ſo, appears by the effect of the exciting noxious powers, which always act upon the whole body (*d*); and from that of the remedies, which always remove

(*c*) As the inflammation of the lungs in peripneumony, the inflammation of the foot in the gout, the effuſion of water into a general or particular cavity in dropſy.

(*d*) The hurtful powers, which produce peripneumony, in common Engliſh, the inflammation of the lungs, are exceſs in eating, drinking, expoſure to heat, or to the alternation of heat with cold, an over proportion of blood from inactivity, or an increaſed velocity of its motion from violent labour, &c. the effect of any or all which muſt fall as much upon every other part of the ſyſtem as upon a ſmall portion of extreme veſſels in the lungs, and therefore the morbid affection produced cannot be confined to the latter, but muſt be extended to the former. The whole body muſt partake of the

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move the effect of the noxious powers from the whole body (*e*), in every general diſeaſe *(f)*.

LI. Temperature particularly affects the ſurface of the body; diet, the ſtomach and

morbid change; it muſt be one common affection pervading the whole. If this is not probation, let any thing left on record by authors, or any living phyſician, produce a ſingle hurtful power, that, without affecting the ſyſtem over all, can penetrate into the inmoſt receſſes of the lungs, and there produce an inflammation. I ſhall be content with one ſuch hurtful power, and in exchange for it, when produced, give up my whole doctrine.

(*e*) Here too I throw the gauntlet. Find a ſingle remedy which removes the diſeaſe by an operation confined to the lungs. There is not one.

(f) A wound in the lungs, among other effects, may produce an inflammation. But that is not a peripneumony, or a general diſeaſe at all. It is, on the contrary, a local one, ariſing from a local cauſe, and to be removed by local remedies, if acceſs could be had to them. And though nothing has been more common than blending ſuch caſes of local and general diſeaſe, at the ſame time no errour, that has hitherto creeped into the art, needs more to be corrected. Such an accident is as much a peripneumony, as an inflammation from contuſion in the foot is a gout, or the ſwelled legs of women heavy with child is dropſy. But of all this more hereafter.

bowels;

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bowels; the blood and other fluids their reſpective veſſels; labour and reſt both the veſſels and muſcular fibres; paſſion and meditation, the brain; all theſe affect the parts mentioned (each that upon which its action is exerted) more than any other equal part.

LII. Inſtances of the greater excitement of a part than of the reſt of the body, are afforded by the earlier ſweating of the brow of an healthy perſon, when he is uſing exerciſe; by checked perſpiration; by inflammation, or ſome analogous affection in general diſeaſes; by head-ach and delirium. Proofs of a leſs excitement in a part are exceſſive perſpiration not occaſioned by labour or heat, eſpecially when cold and clammy, profuſion of the other excretions, ſpaſm, convulſion, partial palſy, weakneſs or confuſion of intellect, and again delirium.

LIII. As the operation of the general powers, whether exciting in exceſs, in due proportion, or in defect, is directed to ſome one part a little more, than to any other equal part; the effect muſt be of the ſame kind

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kind in that part as in the reſt, and, as well as the general operation, be either in exceſs, or in juſt proportion, or deficient, but never of an oppoſite nature. For, as the exciting powers are the ſame, and the excitability every where the ſame, it is impoſſible that the effect ſhould not be the ſame. The excitement, therefore, is never increaſed in a part, while it is diminiſhed in the general ſyſtem—nor diminiſhed, while the general excitement is increaſed. There is no difference here, but in degree; nor can different effects flow from one and the ſame cauſe.

λ. For though, on account of the great ſenſibility of certain parts, for inſtance, of the ſtomach (*g*), and the action, either ſtimulating or debilitating, exerted by the exciting powers on them, theſe parts run ſooneſt either into direct or indirect debility, or into high excitement; this effect is but of ſhort duration, and the reſt of the functions are

(*g*) For the ſame reaſon, i. e. the ſenſibility of the genital ſyſtem, wine and other ſtrong liquors, as well as opium, induce indirect debility ſooner upon theſe parts than others.

ſoon

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ſoon hurried into the ſame ſtate. Thus, nauſea, vomiting, diarrhœa, and other ſimilar ſymptoms, produced by ſtrong liquors and opiates: as well as the ſame affections apparently, and the gout, colic, gripes, and other ſimilar ſymptoms, occaſioned by abſtinence and water drinking: likewiſe good appetite, and the removal of theſe turbulent ſymptoms of the ſtomach and inteſtines, in the convaleſcent ſtate, in conſequence of a proper adminiſtration of food, drink, and diffuſible ſtimulants: all theſe are ſhortly followed by a ſimilar ſtate of the reſt of the body, and the eſtabliſhment of indirect debility is the conſequence of the firſt caſe; that of direct debility ſucceeds to the ſecond; and health over all is the termination of the laſt.

LIV. No part, therefore, is the ſeat of general affection; they extend over the whole body; becauſe, with the inequality above ſtated, the whole excitability is affected in every general diſeaſe.

LV. Neither does the affection of the moſt ſuffering part take place firſt, and afterwards ſpread

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ſpread over the ſyſtem; for as ſoon as the excitability is affected any where, it is alſo and immediately affected every where. Both facts are confirmed by the operation of every exciting power, affecting the whole body as quickly as any one part; by general morbid affections appearing equally ſoon over all the ſyſtem, and commonly ſooner, than in the part moſt affected in the courſe of the diſeaſe (*b*). Therefore

LVI. Every affection of a part, that occurs in general diſeaſes, however formidable, is to be conſidered as only a part of the affection inherent in the whole body; and the remedies are not to be directed to a part, as if the whole diſeaſe lurked there, and was only to

(*b*) The pain of the thorax in peripneumony, which is the ſign of the inflammation within, never appears ſo ſoon as the general affection, and in more than one-half of many hundred caſes, where this fact has been painfully ſcrutinized, it did not appear till one, two, or three days after the commencement of the general affection. Likewiſe the pain of the gout is not the firſt of the phenomena of that diſeaſe. But all theſe, and many more particulars, will be brought in with more advantage in their proper places afterwards.

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be removed thence, but to the whole body, all which it affects (*i*).

(*i*) When the affection of a part is external, and, therefore, acceſſible, the application of a remedy over it, in conjunction with the uſe of the internal remedies, is of ſervice, in conſequence of their mutually aſſiſting each other. A rag drenched in a liquid opiate helps the operation of that remedy taken internally; but that is ſtill by operating upon the excitability over all.

CHAP.

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CHAP. V.

Of Contraction and its effects—Excitement the cauſe of denſity—Difference of ſtrength in the muſcles in health—in ſickneſs—and after death.

LVII. MUSCULAR contraction depends upon excitement, and is proportional to the degree of excitement (*k*). This is proved by all the phenomena of health and diſeaſe, and by the operations of all the exciting powers and of all the remedies. Force and propenſity to motion are the ſame. We muſt judge from facts, not from appearances. Conſequently, tremor, convulſion, and every affection comprehended under it, are to be imputed to debility. The noxious exciting power in theſe caſes is a ſtimulus uncommonly irritating applied to the part.

(*k*) It has already been proved, that all the functions depend upon excitement, and therefore contraction among the reſt.

LVII. The

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LVIII. The degree of contraction, that conſtitutes ſpaſm, is not an exception from this propoſition. This is a continued and deficient, rather than a great and due action; and in ſo far as it is a ſtrong contraction, it depends upon the local ſtimulus of diſtenſion, or of ſomething equivalent to diſtenſion. It conſiſts in diminiſhed excitement, is devoid of force, and removed by ſtimulant remedies. The appearance of ſymptoms, being ever fallacious, ought not to be relied on as the foundation of any judgment. Take now both the fact and the explanation.

LIX. As the degree of contraction, in ſo far as it is a healthy function, depends upon ſtrength, we are to hold it as certain, that the denſity of muſcular fibres, conſidered as ſimple ſolids, is proportioned to the degree of their contraction.

LX. It muſt therefore be admitted, that excitement is the cauſe of denſity. And the denſity is rendered greater and greater by the excitement in proportion to its degree. It is eaſy to perceive this through all the intermediate degrees of ſtrength; from the high-

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eſt, or that which takes place in madneſs, and the denſity correſponding to it, to the loweſt, or that debility which is obſerved in the article of death, in death itſelf, and after death, with a laxity correſponding to it. This is proved by the weakneſs of the fibres in their dead, and their ſtrength in their living, ſtate; the only cauſe of which difference, we know for certain, to be excitement (*l*).

LXI. Hence the cavities of the veſſels, through their whole tract, over the whole body, are diminiſhed in a ſtate of ſtrength, and encreaſed in weakneſs. This is the true cauſe of diminiſhed perſpiration, not conſtriction from cold or ſpaſm.

(*l*) Experiments have been made by baron Haller and others, to aſcertain the comparative ſtrength of muſcular fibres, and the criterion of judgment was their greater or leſs diſpoſition to break by appended weights; but the power by which any body reſiſts ſtretching, is the denſity of that body. Thoſe experiments ſhow, that the fibres in the living body are prodigiouſly ſtronger than in the dead.

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CHAP. VI.

The forms of diſeaſes and prediſpoſitions—Relation between health, prediſpoſition, and diſeaſe—All from varied excitement—Life regulated by excitement—Sthenic and aſthenic diſeaſes—and diatheſes.

LXII. EXCITEMENT, the effect of the exciting powers, when of a proper degree, conſtitutes health: when either exceſſive or deficient, it proves the occaſion of diſeaſe, or of prediſpoſition, previous to the formation of diſeaſe. The ſtate both of the ſimple ſolids and fluids depends upon the ſtate of health, which is regulated by the excitement (*a*).

μ. The firſt cauſe of the formation of ſimple ſolids, and the ſole cauſe of their preſervation, is excitement. Under the direction of the excitement, the living ſolids produce

(*a*) This propoſition overturns the principal ſyſtems that have ever appeared in the profeſſion of medicine: But more of it hereafter.

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the blood from an external matter taken into the ſyſtem, keep it in motion, form its mixture, ſecrete from it various fluids, excrete them, abſorb others, and circulate and expel them from the body. It is the excitement alone, through its varying degrees, that produces either health, diſeaſe, or recovery. It alone governs both univerſal and local diſeaſes: neither of which ever ariſe from faults of the ſolids or fluids, but always either from increaſed or diminiſhed excitement. Hence the cure is never to be directed to the ſtate of the ſolids or fluids, but only to the diminution or the increaſe of excitement.

LXIII. Affections peculiar to parts, or organic maladies, being foreign to this part of the work, in which the treatment of the general ſtate of the body only is conſidered, they are paſſed over at preſent.

LXIV. That life is entirely regulated by excitement appears, 1. becauſe the exciting powers have a ſtimulating effect only: 2. becauſe the activity of the functions is proportional to the ſtrength of the exciting powers: and 3. becauſe efficacious remedies are ſuch as oppoſe

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oppoſe deficient ſtimulus to exceſſive excitement, and exceſſive ſtimulus to deficient excitement.

LXV. The notion of health and diſeaſe being different ſtates is diſproved by the identity of the operation of the powers producing or removing each ſtate.

LXVI. The general diſeaſes, ariſing from exceſſive excitement, are called *ſthenic* (*b*); thoſe that originate from a deficient excitement, *aſthenic*. Hence there are two forms of diſeaſes, and both are always preceded by prediſpoſition.

LXVII. That this is the only real origin of diſeaſes and prediſpoſitions, is proved by the ſame powers, which produce any diſeaſe or prediſpoſition, alſo producing the whole ſet of diſeaſes to which it belongs; and by the ſame remedies, which cure any diſeaſe, or prediſpoſition, alſo curing all the diſeaſes

(*b*) Their old name is phlogiſtic: but as that word is abſurdly metaphorical from an old notion of that ſort of diſeaſes depending upon fire or flame; and becauſe it was not a proper contraſt to the term here to be oppoſed to it; as alſo becauſe it is ſtill more ridiculous when applied to plants, which are comprehended in this doctrine; it has been thought proper to reject it, and ſubſtitute the other in its place.

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and prediſpoſitions of its reſpective form (*c*). Betwixt theſe oppoſite ſets of diſeaſe and prediſpoſition, perfect health is the mean, leaning to neither extreme.

LXVIII. The exciting powers, which produce ſthenic prediſpoſition, or ſthenic diſeaſes, ſhould be denominated ſthenic, or ſtimulant, in a ſtrict ſenſe. Thoſe that pave the way to aſthenic diſeaſes, or produce them, ſhould be called aſthenic, or debili-

(*c*) The ſame noxious powers produce, and the ſame remedies remove, both catarrh and peripneumony, diſeaſes only differing in degree. The powers producing them are exceſs in the uſe of ſtimulants, and the remedies whatever moderates that exceſs. Evacuation, cold, and ſtarving, are the means. All the difference is, that more of the means are employed for the cure of peripneumony than for that of catarrh. The noxious powers producing indigeſtion and fevers are alſo the ſame, to with debilitating; and the remedies the ſame, to wit, ſtimulant. Only a ſmall degree of the remedies, proportioned to the ſlightneſs of the degree of the cauſe, is ſufficient for the cure of indigeſtion; while the moſt diffuſible ſtimuli are required to effect the cure of fevers. Stimulants, in one degree or other, make the cure of all aſthenic diſeaſes; evacuants, and other weakening means, in different degrees, form the whole cure of the ſthenic form of diſeaſes. Might not this have been known long ſince?

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tating. The ſtate producing the former or the prediſpoſition to them, may be called *ſthenic diatheſis*; that which occaſions the latter, with the prediſpoſition peculiar to them, *aſthenic diatheſis*. Each of theſe diatheſes is a ſtate of the body common both to prediſpoſition and diſeaſe, which differ only in degree. I diſtinguiſh the powers, that raiſe both the diatheſes to the meaſure of diſeaſe, by the term *exciting noxious powers*. The ſthenic diſeaſes, in which the pulſe is much affected, ſhould not be denominated fevers or febrile diſeaſes, but *pyrexies*, for the ſake of diſtinguiſhing them from the aſthenic diſeaſes, that diſturb the pulſe, for which fever is the proper name.

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CHAP. VII.

The effect of both the diatheſes, and of the moſt perfect health itſelf—Sthenic powers raiſe—aſthenic lower the functions—Why man is not immortal—Converſion of the diatheſes into each other—Fallacy of ſymptoms—Life a forced ſtate.

LXIX. THE common effect of the ſthenic noxious powers upon the functions is, firſt, to increaſe them, then to impair them in part, but never by a debilitating operation (*a*). The effect common to the aſthenic noxious powers, upon the *functions*, is to diminiſh them, in ſuch a manner, as ſometimes to ſeem, though the appearance is fallacious (*b*), to increaſe them.

LXX. If

(*a*) The inability to perform motion in peripneumony ariſes not from debility, for two good reaſons; firſt, no powers, but thoſe that produce all the other ſymptoms, produce it; and the ſame remedies, that remove the other ſymptoms, are equally effectual for the removal of it.

(*b*) Spaſm and convulſion, ſuppoſed to ariſe from increaſed

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LXX. If the juſt degree of excitement could be conſtantly kept up, mankind would enjoy eternal health. But two circumſtances prevent that. Such is the nature of the ſthenic diatheſis, that it waſtes the ſum total of excitability aſſigned to every being upon the commencement of its living ſtate, and thereby ſooner or later induces diſeaſe, and afterwards death. This is one cauſe of mortality.

LXXI. The aſthenic diatheſis is hurtful by not ſupplying the degree of excitement neceſſary to health, and thereby allowing the ſtate of life to approach more nearly to that, in which death conſiſts. This opens another gate of deſtruction to mankind.

v. Further, diſeaſes and death are conſequences of the change of either diatheſis into the other. Either diatheſis, by means of the noxious powers producing the other, when theſe are employed as remedies (*c*), may, by accident,

creaſed influx of the nervous power, are both occaſioned, and cured, by the ſame powers, as all the other ſymptoms.

(*c*) Stimulants are the proper remedies for curing the gout; but they may be carried ſo far as to produce ſo much

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accident, inadvertence, or design, be completely converted into the other; and by opposite measures, carried to a certain extent, it may be changed back to the same state from which it set out (*d*). This observation will

much sthenic diathesis as to border upon indirect debility. A consequence of which is vomiting, purging, a feeling of burning in the intestines, intermission of the pulse, and strangury; which are only to be cured by substituting watery drink and low diet in place of those opposite remedies. Nay, the stimulants may be carried so far, as to effect the establishment of indirect debility. Hence will arise paralytic affection, anasarca, dropsy, &c. The evacuants and other debilitating remedies, by which the diseases of sthenic diathesis are removed, may, by being pushed to excess, produce the last mentioned diseases, as depending on direct debility.

(*d*) Pushing the remedies of sthenic diseases too far, may reduce the patient to an incipient dropsy; and the remedies of the latter may be urged to such excess, as to pass the range of sthenic diathesis, and terminate in indirect debility. A is affected with a disease of debility, where the excitement has gone down to 10, the excitability mounted up to 70, degrees in the scale. What is to be done? By a proper use of high stimulants the 30 degrees of lost excitement may be restored, and as many of superfluous excitability discharged, and the excitement and excitability made to meet again at the middle point of 40. If the remedies are carried up to any

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will be found of the greateſt conſequence in the cure both of prediſpoſitions and diſeaſes (*e*). What is wanting to further illuſtration ſhall be given hereafter. Hydrothorax ſucceeding peripneumony is an inſtance of the change of ſthenic diatheſis into aſthenic. Again, the immoderate uſe of ſtimulants may convert any aſthenic affection

any degree betwixt 40 and 55, they have gone too far, and produced prediſpoſition to ſthenic diſeaſes; if ſtill farther, but not exceeding 70, they will have produced one or other of theſe diſeaſes. But carried beyond 70, the diſeaſes, which their operation produces, are thoſe of indirect debility. Any diſeaſe of this ſort, when treated according to a rule lately delivered, will be cured. But if the ſtimulants adapted to this purpoſe be urged further, the ſthenic diatheſis will again be produced; and the debilitating power, ſuited to the removal of it, may carry down the excitement below 40 into the range of prediſpoſition betwixt 40 and 25; and then, by a further abuſe of remedies, which ſhould only be uſed in the range betwixt 40 and 70, the excitement may return to the ſame point from which it ſet out, to wit, the point of 10, and the excitability riſe to its original point, that of 70.

(*e*) It muſt never be forgotten, that we are nothing in ourſelves, but, while we have any excitability remaining in proper capacity to be acted upon, we entirely depend on the exciting powers acting on it.

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into a ſthenic one; as when a violent cough, a catarrh, or an inflammatory ſore throat, is induced in conſequence of the treatment of the gout, though proper in kind, being carried to exceſs in degree.

ξ. Though excitement regulates all the phenomena of life; yet the ſymptoms of diſeaſes, which either its exceſs or deficiency produces, do not of themſelves lead to any proper judgment reſpecting it; on the contrary, their fallacious appearance has proved the ſource of infinite errour.

LXXII. From all that has hitherto been ſaid, it is certain, that life is not a natural, but a forced ſtate; that the tendency of animals every moment is to diſſolution; that they are kept from it, not by any powers in themſelves, but by foreign powers, and even by theſe with difficulty, and only for a time; and then, from the neceſſity of their fate, they yield to death.

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CHAP. VIII.

Of prediſpoſition—Definition—Prediſpoſition neceſſarily precedes diſeaſe—even in caſe of contagions and poiſons—Criterion of general diſeaſes—What diſeaſes are not general.

LXXIII. PREDISPOSITION is a ſtate intermediate betwixt perfect health and diſeaſe. The powers producing it are the ſame with thoſe which produce diſeaſe.

LXXIV. The period of prediſpoſition will be ſhorter or longer, according to the greater or leſs force of the noxious powers that have induced it; and the interval between health and actual diſeaſe will be more quickly or ſlowly paſſed over.

LXXV. That prediſpoſition neceſſarily precedes diſeaſes, is evident, as it ariſes from the ſame exciting powers, acting upon the ſame excitability, from which both health and diſeaſe ariſe, and is an intermediate ſtate betwixt both. And, as the excitement of health

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health differs much from that of diſeaſe; it cannot be ſuppoſed, that the former immediately mounts up to the latter, and ſkips over the boundaries of prediſpoſition: nay, the contrary is certain and beyond a doubt.

LXXVI. Contagious diſeaſes do not furniſh an exception to this obſervation; becauſe, whether the matter of contagion act by a ſtimulant or a debilitating operation, its operation is the ſame with that of the ordinary powers, that is to ſay, the cauſe of diſeaſe is the ſame (*a*). If, as ſometimes happens,

(*a*) The ſmall-pox and meaſles are cured by the ſame means as peripneumony or any other ſthenic diſeaſe; and, excepting the contagious matter, ariſe from the ſame ſtimulant hurtful powers; they muſt, therefore, with the ſame exception, be the ſame. The only difference is, that they are accompanied with a contagious matter, and the other ſthenic diſeaſes are not. The amount of which is altogether unimportant. For, if the ordinary powers have not operated, the affection does not come under the definition of general diſeaſe; none of the functions receding from their natural ſtate, and the eruption amounting to no more than a ſlight local complaint. It is, therefore, only of uſe to regard the general circumſtances of theſe diſeaſes, making no more account

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pens, no general affection follows the application of contagion, if no undue exceſs or defect of excitement is the conſequence, the affection is altogether local and foreign to this place.

LXXVII.

account of the local part, than to conſider, arrange, and treat it as ſuch. It is well known, that, when by the means uſed for the cure of ſthenic diſeaſes without contagion, and their ſequel, eruption, the ſthenic diatheſis is prevented or removed, the local part gives no trouble; and that the diſeaſe is never dangerous but from the neglect of that management. But the management is nothing elſe but the ordinary one in any ſthenic caſe. If it ſhould be contended, that, all that being granted, ſtill the eruption may contribute a little: Be it ſo, and it can be but very little; what is the effect? The cure ſhows it; which is exactly the ſame as in ſthenic diſeaſes without eruption. The diſeaſe, therefore, being the ſame (for its mere local part is out of the queſtion, as only requiring a peculiar expoſure to cold, which is equally proper in every ſthenic diſeaſe); every part of reaſoning reſpecting it, and, conſequently, that affecting the queſtion about prediſpoſition, muſt alſo be the ſame. If, therefore, other general diſeaſes have their prediſpoſition, ſo muſt the ſmall-pox, the meaſles, and the plague itſelf. If it ſhould ſtill be ſaid, that the eruptive diſeaſes, though in other reſpects the ſame with the non-eruptive, differ, in ſo far as prediſpoſition is required as a common

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LXXVII. Any morbid affection that poiſons may produce without prediſpoſition is not to be conſidered as a general diſeaſe, both for this very reaſon, and becauſe it can neither be removed nor relieved by the uſual treatment of general diſeaſes; and the diverſity of the effect proves, that both the cauſe and exciting noxious power are different from the general ones. In one word, ſince prediſpoſition and diſeaſe differ only in degree, the unavoidable concluſion is, that whatever, with a given force, produces the latter when acting with a leſs force, will produce the

mon circumſtance between them; the anſwer is, that that difference only reſpects their local part, which, without the powers producing the diſeaſe, is inſignificant and a mere local complaint. As general ſthenic diſeaſes, the ſmall-pox and meaſles, and as general aſthenic ones, contagious fever and the plague, to the full extent of their generality, have their period of prediſpoſition; we may have occaſion afterward to eſtabliſh the queſtion about prediſpoſition to them even as local diſeaſes, but this is not the place for it; all that was required here being to ſettle the queſtion about prediſpoſition to them as general diſeaſes. In the ſame point of view all that has been ſaid of contagious diſeaſes, will apply to diſeaſes in which poiſons may have been concerned.

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former. The only cure for moſt poiſons is their early diſcharge from the ſyſtem. And if, as often happens, others, by wounding an organ neceſſary to life, are fatal; the effect of both is foreign from our preſent ſubject, and to be referred to local diſeaſes.

LXXVIII. In the powers producing either prediſpoſition or completely formed general diſeaſe, the only thing worth inveſtigating is the proportion which thoſe producing the prediſpoſition bear to thoſe producing the diſeaſe; in order to learn the degree of noxious force poſſeſſed by each, and the degree of curative means neceſſary to remove the effect. Diſtinctions between the powers producing prediſpoſition, and thoſe that excite diſeaſe, under the general appellation of prediſponent or occaſional cauſes, have been multiplied and refined upon without end. But the whole ſyſtem of remote cauſes, as they have been called, is falſe in its firſt idea. The noxious powers, whatever they be called, that produce diſeaſes, alſo produce the prediſpoſition to them. Which being once admitted, as it henceforth muſt, the whole fabric of aitiology, or of the doctrine of remote cauſes, muſt fall

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to the ground: Conſequently, *ſimply remote cauſes*, not diviſible into prediſponent and occaſional; *relative remote cauſes*, or ſuch as are ſo diviſible; *internal* and *external prediſponent*, *internal* and *external occaſional*, *cauſes*; *approaching cauſes*, or *cauſæ propriores*, *proximate cauſes*, of which, not only one, but often ſeveral, are aſſigned to every diſeaſe, muſt ceaſe in medical language, and attention will be turned away from the endleſs purſuit of diſtinctions without a difference, to the ſtudy of the ſolid and uſeful facts that nature holds up to contemplation in great abundance, when once our eyes are fairly opened to them.

LXXIX. The knowledge of prediſpoſition is of great importance; as enabling the phyſician to prevent diſeaſes, from his acquaintance with the powers that lead to them; to comprehend the true cauſe of them founded in prediſpoſition; and to diſtinguiſh them from local affections, which are widely different. Such is the ſimplicity to which medicine is thus reduced; that when a phyſician comes to the bed-ſide of a patient, he has only three things to ſettle in his mind. Firſt, whether

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whether the diſeaſe be general or local; ſecondly, if general, whether it be ſthenic or aſthenic; thirdly, what is its degree? When once he has ſatisfied himſelf in theſe points, all that remains for him to do, is to form his indication or general view of the plan of cure, and carry that into execution by the adminiſtration of proper remedies.

LXXX. As prediſpoſition and diſeaſes themſelves are the ſame ſtate; a criterion, by which general good may be diſtinguiſhed from local diſeaſes will be found in this ſingle circumſtance, that general diſeaſes are always, local never, preceded by prediſpoſition. An inflammation in ſome part of the ſtomach, or as it has been commonly called, "the inflam- "mation of the ſtomach," as if it were always of the ſame kind, produces many ſymptoms, that bear ſo great a reſemblance to general ſthenic diſeaſes, ſuch as peripneumony, that by ſyſtematics and noſologiſts, this and many other inflammations of internal cavities, have been united into an order of diſeaſes, ſuppoſed all to partake of one common nature. The gaſtritis, however, which is its noſological name, is eſſentially different, both from pe-

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ripneumony and all the other general diſeaſes of the order with which it is aſſociated, both in other reſpects, and in that of which we are ſpeaking. As ariſing from certain local noxious powers, it is not preceded by prediſpoſition. So when I come to the bed-ſide of a patient under theſe circumſtances, though I had no previous knowledge of the nature of his diſorder, whenever I hear that he has ſwallowed ground glaſs, ſmall fiſh bones, or, perhaps, a great quantity of cayenne pepper, I can be at no loſs to diſcern the nature of the diſeaſe, and to find, that it is altogether local; and that for two of the beſt of all reaſons; firſt, the perſon having been in perfect health immediately before that accident; and, ſecondly, becauſe the ſubſtances he had ſwallowed were ſuch as would naturally divide a ſound part, or, in the language of our profeſſion, produce a ſolution of continuity. From this, again, inflammation is an inſeparable conſequence. And it is equally an univerſal fact in the animal economy, that, when any part, whether internal or external, which poſſeſſes great ſenſibility, is wounded or otherwiſe injured in its ſubſtance, the pain ariſing from

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from the inflammation ſuperinduced ſpreads ſymptoms of diſorder over the whole ſyſtem, which are liable to miſlead thoſe, who are not in poſſeſſion of the criterion we here point out. As ſuch a caſe then, is not preceded by prediſpoſition, which peripneumony as well as every other ſthenic, and every aſthenic diſeaſe muſt, from the proofs of the univerſality of the fact, be allowed to be, it muſt be local.

LXXXI. As the affection of a part is always the original ſource of local diſeaſes, and as the diſtinctions, we have ſtated, are eſtabliſhed upon the ſolid baſis of truth; the following diſorders muſt be rejected from the number of general diſeaſes, however great their reſemblance to them may be. Whatever affections, then, ariſe from any ſtate of a part; from ſtimuli or from debilitating circumſtances not producing any commotion in the whole body, or only in conſequence of the violence of the local cauſe; from compreſſion of a part; from obſtruction; from other diſeaſes whether general or local, and not from the exciting powers which produce

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general diſeaſes (*b*); all theſe muſt be rejected from the number of general diſeaſes, and that for the moſt ſolid reaſons; to wit, their differing from them in the noxious powers that produce them, in their true cauſe (*c*), in their cure (*d*), and in every eſſential reſpect,

(*b*) Let it here be added, that the powers producing general diſeaſes, are thoſe that act upon the excitability, and are, thereby, quickly communicated over the whole ſyſtem; while thoſe, that act upon the ſolid texture of a part, ſo as to cut, prick, bruiſe, or contuſe it, &c. are the powers productive of local diſeaſe.

(*c*) The cauſe of the inflammation of the ſtomach has been mentioned. To concentrate it into a definition; it is a ſolution of the continuity of a ſolid part in the ſtomach, by mechanical or acrid means, followed by inflammation and pain, and, in conſequence of the great ſenſibility of the part, propagating ſymptoms of diſorder over all the ſyſtem. The cauſe of the general diſeaſes here alluded to is an increaſe of exitement, and the inflammation accompanying thoſe diſeaſes ariſes from that increaſe.

(*d*) The cure of gaſtritis, or the inflammation of the ſtomach, is to contrive means to keep the hurtful, and all rude matters, from coming into contact with the inflamed part, and leave that part to heal; taking care, neither to increaſe the local affection by too ſthenic a diet, nor to produce a tendency in the inflammation to run

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reſpect, agreeing with them in nothing, but in a deceitful and deceiving ſuperficial appearance.

run into gangrene, by the abuſe of evacuations and other debilitating powers; and if, than which nothing is more likely, the acuteneſs or continuance of pain ſhould at laſt bring on a ſtate of general debility, then to uſe the palliative means of preventing that bad conſequence. The cure of peripneumony is to weaken the ſyſtem, from the very commencement of the diſeaſe, by diminiſhing the energy of all the exciting powers; that of the abundance of the blood by bleeding; that of the over-proportion of the other fluids by purging, ſtarving; that ariſing from the ſtimulus of heat and other exceſſive ſtimuli by cold, &c.

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CHAP. IX.

The general diagnoſis—Variety of diſeaſes from variation in the excitement—Marks of general diſeaſe—How to attain uſeful medical knowledge—Origin of certain internal local affections.

LXXXII. THE violence and danger of univerſal diſeaſes is in proportion to the exceſs of excitement (*a*), or its indirect or direct deficiency (*b*); as appears from all that has been ſaid above: conſequently, their principal variety depends upon this variation of the degree of excitement.

LXXXIII. The only diagnoſis (*c*) of any im-

(*a*) The exceſs is contained between 40, the point of health in the table, and 70.

(*b*) The caſes of indirect deficiency or debility are comprehended betwixt 70 and 80. The direct are all the degrees below 40. Betwixt 40 and 55 conſiſts prediſpoſition to ſthenic; betwixt 40 and 25 the prediſpoſition to aſthenic diſeaſes.

(*c*) Diagnoſis is the doctrine of diſtinguiſhing diſeaſes from one another. It was naturally thought to be the

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importance is that, by which general diſeaſes are diſtinguiſhed from thoſe local or ſymptomatic affections, which, by throwing the whole ſyſtem into diſorder, aſſume a certain reſemblance to univerſal diſeaſes. The following marks are ſufficient for the diſcrimination of every general diſeaſe; firſt, its being preceded by a diatheſis, and this followed by a diſeaſe ſimilar to it, and removed by an operation of the remedies of an oppoſite nature to that which occaſioned the diſeaſe; while, on the contrary, local affection is diſtinguiſhed by the affection of a part, and the diſorder of the ſyſtem not ariſing from any change in the excitement, but being ſuch as may be traced

the greateſt importance, when diſeaſes were ſuppoſed very numerous, and as different from each other as their names and the various appearances of their ſymptoms. That, however, has been found to be altogether a miſtake in this work, in which the endleſs variety of general diſeaſes is reduced to two forms, a ſthenic and an aſthenic one, without any other difference but what conſiſts merely in degree. The huge volumes of diagnoſtics are then in this chapter ſuperſeded; and much labour, not only irkſome to the artiſt, but worſe than uſeleſs, often pernicious to patients, is proved to be ſuperfluous.

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back to that affection; and by the abſence of the diatheſis of the diſeaſe which the local affection reſembles, or only its accidental preſence.

LXXXIV. In order to attain to this uſeful knowledge, learn what is neceſſary from anatomy; waſte no time in ſuperfluous ſtudy of it; peruſe the works of the illuſtrious Morgagni; diſſect ſubjects; diſtinguiſh reſiduary effects from cauſes that have paſſed away; examine diligently many bodies of perſons who have been hanged, or have died of wounds, but were otherwiſe healthy; compare theſe diligently with the bodies of thoſe who have died of lingering or often repeated diſeaſes; compare every particular with every other, the whole with the whole; guard againſt raſh hypotheſes, which if you can, you will be among a very few, who have ever been able to do it; never expect to diſcover the cauſe of general diſeaſe in dead bodies; be circumſpect in forming a judgment.

LXXXV. Internal local affections often conſiſt in a taint that remains after general diſeaſes have paſſed away: it may therefore aſſiſt in forming a right opinion to remark, that

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that there will be leſs reaſon for ſuſpecting ſuch a local affection, the leſs the patient has been ſubject to general diſeaſes, and the contrary.

CHAP.

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CHAP. X.

The general prognoſis, or general judgment of the event—Danger according to the degree of the diatheſis and importance of the moſt affected part.

LXXXVI. SINCE the powers producing ſthenic and aſthenic diatheſis always act upon ſome one part with more force than upon any other equal part; it follows, that the danger of diſeaſe during the prediſpoſition, and of death during the diſeaſe, increaſes in proportion to the degree of diatheſis, or to the importance of the part principally affected. But, its degree being given, the more equal or general the diatheſis is, the more ſafe it is. Nor does it ever fall heavy upon an organ neceſſary to life, without inſtant danger. Hence it is, that peripneumony, apoplexy, phrenitis, eryſipelas, and the gout, when the two latter much affect the head, are chiefly formidable.

LXXXVII.

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LXXXVII. Local and ſymptomatic affections ought to be diſtinguiſhed from general diſeaſes, and the remarks in LXXXIII. LXXXV. transferred to this place.

CHAP.

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CHAP. XI.

The general treatment—Indications of cure—Mode of action of remedies—Sthenic and antiſthenic remedies—how to be employed—Local and general remedies—What regard is to be paid to contagious matter—When the middle or tonic treatment is proper—Peculiar circumſtances muſt regulate the indication—Perſons ſubject to indirect, and direct debility—Cure of indirect, and direct debility—Danger of weakening the body.

LXXXVIII. THE indication for the cure of ſthenic diatheſis is to diminiſh, that for the cure of the aſthenic diatheſis is to increaſe, the excitement, till that degree, which conſtitutes the mean betwixt its extremes, and which is ſuited to good health, be reſtored. This is the only indication of cure that univerſal diſeaſes admit.

LXXXIX. As both diatheſes ariſe from an

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an operation of the exciting powers, the ſame in kind, but varying in degree; ſo they are both prevented and removed by an action of the remedies, alſo the ſame in kind, but oppoſite in degree, to that which produced them. As the cauſe, ſo is alſo the plan of treatment, confirmed by an induction from the whole ſeries of facts and phenomena (*a*). The ſame debilitating remedies, which remove any one ſthenic diſeaſe, remove that whole ſet of diſeaſes: and the ſame ſtimulant means, which cure any one aſthenic diſ-

(*a*) Suppoſe the ſthenic diatheſis mounted up to 60 in the ſcale; to reduce it to 40 it is evident, that the 20 degrees of ſuperfluous excitement muſt be taken off, and, therefore, that remedies operating with a ſtimulus, weak enough to produce that effect, muſt be employed: they are ſtill, however, ſtimulant, and of conſequence, though they remove it, ſtill the ſame in kind, as the powers that produced the diatheſis; it having been proved, that they are not to be ſuppoſed ſedative, both for the reaſons already given, and for this additional one, that proof has not been yet brought of a ſingle ſedative in nature. As their ſtimulus, however, is leſs than that which is required to ſupport the ordinary ſtate of health, they are underſtood to be debilitating, and, therefore, proper remedies of ſthenic diatheſis.

(*b*) Sup

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eaſe, remove all the reſt (*b*). Are not palſy, in ſo far as it is curable (*c*), and dropſy, in ſo far as it is a general affection (*d*), as well as the gout, and fevers, both relieved and removed

(*b*) Suppoſe the aſthenic diatheſis to have ſunk down to 20; to raiſe it up to the ſtandard of health, it is plain, from all the propoſitions hitherto laid down, that the 20 degrees of deficient ſtimulus muſt be reſtored, and, therefore, that remedies operating with a degree of ſtimulus adequate to the production of that effect, muſt be uſed. All the difference betwixt the force of this ſtimulus and that of the other, is only a difference of 40 degrees. As, therefore, the debilitating powers, though ſtimulant, employed in the firſt, removed the morbid ſuperfluity; ſo the ſtimulant powers uſed in this caſe, called ſtimulant by way of eminence, remove the morbid deficiency, and, thereby, reſtore the degree of excitement, that conſtitutes the ſtandard of health.

(*c*) When the prevalence of debility, and that to ſuch a degree, as to deſtroy the connexion that ſubſiſts betwixt the fibres of muſcles, and that function of the brain which we call will, takes place in parts of the ſyſtem, not only remote from the centre of activity, but beyond the circulation, it muſt be of difficult cure; becauſe the moſt powerful means of effecting that operation act moſt powerfully when taken internally, and much more feebly when applied to the ſkin.

(*d*) What is called dropſy conſiſts of a caſe which is a general diſeaſe, and a number of others, which are only ſymptoms

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moved by the ſame remedies? And are not peripneumony, the ſmall-pox, the meaſles, rheumatiſm, and catarrh, removed by the ſame remedies, to wit, evacuants, cold, and ſtarving? But all theſe remedies in the aſthenic caſe increaſe, in the ſthenic diminiſh, the energy of life. In both caſes the operation is the ſame, nor is there any diverſity but in degree.

XC. The remedies, therefore, of ſthenic diatheſis are powers exciting by a weaker ſtimulus, than that which is ſuited to health; which in this work are denominated, for the ſake of brevity, *debilitating or antiſthenic remedies*.

XCI. The remedies of aſthenic diatheſis

ſymptoms of local internal diſeaſes, and to be treated in the laſt part of this work. Theſe ariſe from oſſifications in the large veſſels next the heart, from tumours, whether ſcirrhous or ſteatomatous, impeding by their preſſure the return of the blood by the veins to the heart. It is the general caſe that is here alluded to, and the public may depend upon it, that it is to be cured, though not by evacuant means, but, on the contrary, by the high diffuſible ſtimuli, neceſſary to the cure of the diſeaſes of high debility, ſuch as the extremity of typhus fever, and an expiring gout. All theſe are cured by high ſtimulants.

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are powers exciting with more force, than ſuits the beſt health; they may be called *ſtimulants or ſthenic*, for the ſake of diſtinction.

XCII. Theſe remedies are to be employed with more or leſs freedom in proportion to the higher or lower degree of each diatheſis, and of the local affection depending upon it. And ſuch a choice ſhould be made, that the moſt powerful may be adapted to the moſt violent caſe. But the cure of no diſeaſe of conſiderable violence, and ſcarcely of any diſeaſe at all, ought to be intruſted to any one remedy. The uſe of ſeveral remedies is preferable to that of one; becauſe their energy is applied to the ſyſtem to a greater extent, and the excitability is more completely and more equally affected. The perſon, who means that his remedies ſhould go to a particular part, and there, from a local operation, and not by an affection of the excitability, ſerve his purpoſe, is equally wiſe with him, who, by cropping a twig, expects to eradicate a tree. What remedies are of general, what of local operation, ſhall next be deſcribed.

XCIII. General remedies are thoſe, which, acting

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acting upon the excitability, by an operation diffuſed over the whole body, reproduce the ſtate of health.

XCIV. Local remedies are thoſe, which act by a ſimilar operation on a part, and, by an operation confined to that, reſtore the ſound ſtate.

XCV. Since every univerſal diſeaſe, every prediſpoſition, depends upon increaſed or diminiſhed excitement, and is removed by the converſion of that into the degree which conſtitutes the mean betwixt both; in order both to prevent and cure diſeaſes, we muſt always uſe the indication propoſed, and ſtimulate or debilitate; never wait, or truſt to the ſuppoſed powers of nature, which have no real exiſtence.

XCVI. In the indication of cure, the only regard to be had to morbific matter, is to allow time for its paſſing out of the body. For whether it acts like other exciting powers, ſometimes by ſtimulating, as in the ſmall-pox and meaſles, at other times by debilitating, as in contagious fevers and the plague, or its action conſiſts in only giving the peculiar form of its reſpective diſeaſe, and, thereby, adding

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a local affection to a general one; in either caſe there is no room for a new indication.

XCVII. For if the diſeaſe, as a general one, be properly treated, every eruption and its conſequences, every ſpecies of inflammation, every ſpecies of ulceration, give way to the happy effect of the general plan of cure. And when the event, in conſequence of a bad method of cure, threatens to be unfavourable, the local ſymptoms are proportionally aggravated. This was proved in the ſmall-pox long ago, and in the meaſles lately (*e*), with equal certainty

(*e*) After the diſcovery of the nature of the catarrh, the catarrhal ſymptoms in the meaſles came naturally to be inquired into. A full trial was given to the refrigerant debilitating plan, in the author's own family, as well as among ſeveral patients, and laſtly among near an hundred patients in England, treated by the father of one of the author's pupils; who all did well, while of others, who were kept warm, according to a practice that Dr. Sydenham had left as he found it among his alexipharmic contemporaries, many died, and all had a bad recovery. The author's own ſon and name-ſon, a boy about ſix years of age, was ſtript half naked and allowed to go out and play as he pleaſed. The only check upon him was, his being allowed nothing but fluid vegetable matter, when he returned home with a keen appetite.

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certainty; it is proved in the plague, at leaſt as often as this diſeaſe is treated by remedies proper in kind and adminiſtered in due proportion; it is proved in the malignant or gangrenous ſore throat (*f*), and in other forms of typhus, with a ſimilar local affection. In the two laſt inſtances, the danger to life depends upon the degree of general affection, without which there is no occaſion for any apprehenſion from the local. And the ſame propoſition is ſo true, with reſpect to the three former, that, though the contagious matter

appetite. This matter will be further explained, and in a more proper place, hereafter. But what has been ſaid was in illuſtration of the hint in the text.

(*f*) This caſe of diſeaſe has been conſidered, as wholly and ſolely ſeated in the throat, and therefore conjoined with other diſeaſes, where that local affection was underſtood to be the eſſential ſymptom, and a ſymptom that connected all the caſes. But the other caſes are ſthenic, or to be cured in the ordinary way of bleeding and evacuation; while ſuch a practice is certain death in it, as being not only an aſthenic caſe, that is a caſe of debility, but one of the higheſt; and, inſtead of depending upon the affection of the throat, the affection of the throat depends on it. Give ſtimulants to the patients labouring under the inflammatory ſore throat, and you kill

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matter has been applied, yet, without the general noxious powers preceding, no real general diſeaſe ariſes, the danger is in proportion to their violence, and the whole cure depends upon the general remedies. Theſe facts all concur to ſhow, that no kind of matter, whether contagious or not, contributes any thing towards the general diſeaſe it accompanies and diſcriminates; or, if it does contribute, that it acts exactly as the ordinary powers do.

XCVIII. During both overabundant and deficient excitement, the healthy perſpiration is diminiſhed during the prediſpoſition, and ſuppreſſed in the courſe of the diſeaſe (which has been already hinted, and will more fully be demonſtrated hereafter). It is, therefore,

kill them; bleed, purge, vomit, and ſtarve, in the gangrenous caſe, and you enſure the ſame fate. Such, however, are the diſeaſes, that ſyſtematics, noſologiſts, and other ſtrangers in the city of nature, have, from their ignorance of the place, in ſpite of their natural diſtance, brought all together. (See Dr. Cullen's Genera Morborum, all the three editions, genus VII). As ſoon will Mile-end and Knightſbridge meet; as ſoon will London place itſelf on the Calton-hill, and become an elevated ſuburb of Edinburgh.

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proper that it ſhould be carefully kept up, for the purpoſe of diſcharging any hurtful matter from the body. But this ſuggeſts no new indication of cure; ſince the only means of effecting this purpoſe are thoſe, which tend to remove both the diatheſes in proportion to their force, and which are not ſerviceable as local, but as general remedies (*g*).

XCIX.

(*g*) The diſcovery of the ſupport of perſpiration upon a principle, which extends to all the phenomena of the ſubject, was reſerved for this work. The heating remedies of the alexipharmic phyſicians were intended to ſupport the perſpiration, and, thereby, throw out a morbific matter: which was a very unlucky thought in the ſthenic diſeaſes, the principal of which were peripneumony, of which we have already ſo often ſpoken; phrenitis, in which the brain was ſuppoſed to be inflamed; and the ſmall-pox and meaſles; becauſe the nature of thoſe diſeaſes, and the tendency of all the powers producing them, was to check the perſpiration, (ſee No. LXI.) from the exceſs of their ſtimulus; conſequently, the addition of more ſtimuli, by way of cure, would check it ſtill more. But theſe diſeaſes are only three out of an hundred general diſeaſes: whereas the followers of the great man, who corrected that abuſe through a fiery perſecution (ὡς διὰ πυρος) againſt himſelf, went all into a much worſe extreme. Their imitation of their maſter tranſported them into a rage to carry the plan of pro-

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XCIX. Should a perſon, who during the former part of his life has lived luxuriouſly, at an advanced age, either from intention or neceſſity, abate a good deal of his uſual indulgence, and yet preſerve ſome appearance of an abundance of fluids and of vigour; he muſt not, as is commonly done, be ſuppoſed to labour under plethora and exceſſive vigour; but, on the contrary, unleſs there be a recent and evident cauſe for it, which is poſſible, he muſt be held for one who labours under indirect debility; and ſo much the rather, if, to noxious powers already too invigorating, among which all thoſe that fill the veſſels are to be numbered, directly debilitating powers have ſucceeded.

promoting perſpiration, by the ſame means, through the remaining 97 of the hundred. And they ſucceeded with a vengeance. For, as it is the nature of theſe diſeaſes to tranſmit too great a quantity of fluids through the perſpiratory pores, in conſequence of the debility, which conſtitutes their cauſe; certainly the increaſe of that debility, that is to ſay, the increaſe of the cauſe, ſhould increaſe the effect. Which it moſt certainly did, through all the ſyſtems that have appeared for more than a century paſt. "Stulti dum fugiunt vitia, in contraria "currunt." This is intended only as a hint, to enable our intelligent readers to underſtand the fuller explanation of perſpiration, which will ſoon follow.

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In this caſe it is neither a debilitating or aſthenic plan of cure, for that would increaſe the direct debility; nor a plan too ſthenic, for that would increaſe the indirect debility, the principal cauſe, and, conſequently, the diſeaſe; but it is a middle method, which is commonly called tonic, that ſhould be purſued (*b*).

(*b*) The blood is made from the food, and elaborated by the powers of digeſtion; that is, the more nouriſhing food is taken in, and the more ſtrength there is in the ſyſtem to convert it into real blood, the more, and alſo better, blood will be produced. The quantity of blood, ſo produced, may go to exceſs, as well as every other exciting power, the principal of which it is. But the queſtion is, when, in whom, and under what circumſtances, is an overproportion of blood generated? Common ſenſe would ſay, not at the beginning or the end of life, when the degree of nutriment uſed is far from being ſo conſiderable, as at the middle and vigorous period of life. Again, which of the two ſexes is ſuppoſed moſt liable to generate this morbid redundancy of the vital fluid? A ſimple creature, aided by nothing but natural ſagacity, would be apt to ſay, the men; both becauſe they eat more, and, from the greater variety of the modes of promoting digeſtion to which they are addicted, digeſt better. How medical ſyſtematics would laugh at ſuch ſimplicity! How contrary that would ſeem to myſtery, their lydian ſtone, under which they think all wiſ-

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C. Since we ought to adapt the efficacy of the curative means to the degree of diſeaſe (under which, for the ſake of brevity, let prediſpoſition alſo be comprehended), regard ſhould be had, in the indication of cure, to age, ſex, habit, conſtitution, climate, ſoil, in fine, to the operations of all the exciting powers in general, of all the noxious ones in particular, of all the remedies, whether they have been proper or improper.

CI. The ſubjects of direct debility are women; perſons in a ſtate of inanition; thoſe who have been inſufficiently ſtimulated; thoſe who have a delicate ſet of ſolids; thoſe who have been accuſtomed to moiſture, whether from the climate or ſoil; finally, all perſons in a languid ſtate, which has not been preceded by high excitement, ariſing either

wiſdom ſo ſafely lodged, as to fear it would be dangerous to turn it up, and examine what was under it? What ſort of habits are moſt liable to it? Not thoſe, who have the greateſt bulk of ſimple ſolids, whether they eat or not, much leſs thoſe, who are liable to bleeding diſcharges, who can neither eat nor digeſt; but all thoſe who eat and digeſt well.

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from noxious powers, or the mode in which they may have been treated.

CII. On the contrary, the perſons in whom indirect debility is prevalent are adult males; perſons of too full an habit; perſons who are over ſtimulated, and the diatheſis is the ſtronger, the longer they have been over ſtimulated; thoſe who have been overheated, whether they have been wet at the time or not; all thoſe, in ſhort, who, having been once vigorous, have been rendered languid either by the ordinary noxious powers, or by improper treatment, when diſeaſed.

CIII. In the cure of indirect debility; whatever be its degree, from whatever ſort of exceſſive ſtimulus it has ariſen; little leſs of the ſtimulus, which is to be employed as the chief remedy, than that, which produced the diſeaſe, ſhould, at firſt, be uſed; and then leſs and leſs, till the diſeaſe is cured.

CIV. When the firſt part of the cure is completed, and the convaleſcent can uſe the more permanent and natural ſtimuli, he ſhould gradually be confined to them, and drop the uſe of the more diffuſible; though if he has been in the habit of uſing much ſtimulus, he may

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may be indulged in ſomething extraordinary in that way for ſome time (*i*)

CV.

(*i*) This indulgence is chiefly intended for thoſe, who have gone to ſome exceſs in the uſe of the ſtimulus of drink, and who ſtill, without it altogether, are not capable of taking enough of food and other durable ſtimuli for their ſupport. The aim, however, of all ſuch perſons (with the exception only of thoſe who are of an advanced age, or of thoſe whoſe debility threatens to run to a certain courſe), ſhould be to lay aſide the daily uſe of drink altogether, and to indulge in occaſional approaches to exceſs as ſeldom as poſſible. Some perſons, even beyond the fiftieth year of their age, when they found they could eat and perform all their other functions with vigour, have had the reſolution to abſtain from all ſorts of ſtrong drink, not only with impunity, but with a moſt wonderful improvement of their health and vigour. Another advantage, ariſing from this management, is, that, whenever any diſeaſe, to which a perſon may be liable, (ſuch as the gout, various affections of debility, chiefly prevalent in the alimentary canal; in a word, the diſeaſes of either form of debility), either returns, or threatens to return; a return to the uſe of wine and other ſtrong drink will become an excellent remedy, and even ſuperſede the uſe of high diffuſible ones. That practice would be attended with this further advantage, that, when the occaſion that called for it was over, and the diſeaſe prevented or removed, the perſon might again lay aſide the uſe of drink, with all the good conſequences he had formerly experienced from the practice,

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CV. The cure of the hurtful effect of any ſtimulus ſhould firſt be ſet about by changing it for a leſs; this for a ſtill leſs; and the intention of cure ſhould be always to paſs from the uſe of the more violent and diffuſible, which nature in her healthy ſtate rejects, to that of the more durable, and more ſuitable to nature when unoppreſſed, till the healthy ſtate can at laſt be maintained by the uſual means (*k*).

CVI. In the caſe of indirect debility, where the view is to reſtore vigour, a debilitating plan of cure ſhould be avoided; becauſe no ſort of debility is to be cured by another, or any degree of it by any degree of another kind. It is only in the progreſs to indirect debility (*l*), that directly debilitating powers

practice, and thereby both prolong his life, improve his health, and enjoy the proper and vigorous uſe of all his functions.

(*k*) In many diſeaſes of debility ariſing from a former exceſs, the ſtimulant effects of which have paſſed away, the uſe of cold water, though in gratification of the patient's craving, and of other thin potions, as well as of vegetable aliment in a fluid form, and of evacuation of every kind, is moſt hurtful.

(*l*) Betwixt 40 and 70.

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are ſuitable for the purpoſe of ſupporting the vigour, which is, in that caſe, in danger of being worn out (*m*): ſuch as cold bathing, lowering the diet, weak drink, and a ſimilar abatement in the uſe of the other ſtimuli.

CVII. For the cure of direct debility, we ſhould begin with the ſmalleſt degree of ſtimulus, and then riſe to the uſe of a greater

(*m*) At 65 there are only 5 degrees of vigour left, which, either by a continuance of the ſame exceſſive ſtimuli that produced them, or, by the addition of a degree proportioned to that effect, would be worn out. Remove ſome of the ſtimulant powers, the exceſs of excitement will be diminiſhed, ſuppoſe to 60; remove more of the former, and the exceſs of the latter will be further diminiſhed, till the excitement is reduced to its natural healthy ſtandard of 40. The ſtate of excitement, then, within this range, that is, between 40 and 70, eſpecially in proportion to the approach of the exceſs to 70, is that, to which only directly debilitating powers ſhould be applied. In all caſes above 70 where the excitement is gone, and below 40 where it conſtantly decreaſes all the way, till it is loſt at 0, directly debilitating powers are pernicious. How bad then muſt the only practice be, that we find in books and lectures, a practice tranſmitted from the firſt accounts of our profeſſion, and which deals in the uſe of no other means but directly debilitating ones? Bad, indeed, muſt it be!

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and greater, till the morbid abundance of excitability be gradually worn off, and health at laſt reſtored.

CVIII. When the diſeaſe ariſes from the want of any one ſtimulus, the return to its uſe ſhould be gradual, and facilitated by other ſtimulants more powerful than itſelf.

CIX. Alſo in this part of the general method of cure, debilitating, either directly or indirectly, ſhould be avoided; both for the reaſon formerly given, and alſo, becauſe the ſtimulant plan of cure, which is the only proper one, when carried to exceſs, converts the ſthenic diatheſis, that between 40 and 70, into the aſthenic, (between 70 and 80), and the latter into death (at 80). For which reaſon, while, on the one hand, debilitating powers are to be avoided; it muſt, on the other, not be forgotten, that the power employed in the cure ſhould be accommodated to the degree of morbid ſtate. The thirſt, which is occaſioned by debility, is increaſed by cold water, and hurried on to the higher ſymptoms of nauſea and vomiting; it is quenched by pure wine, or ſpirit, which prevent the troubleſome ſymptoms that would

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would otherwiſe follow. Pure wine increaſes the thirſt, that proceeds from a ſthenic cauſe, and excites the ſame troubleſome ſymptoms, which cold water does in the other caſe; cold water ſates it, and prevents the future diſorder.

CX. Since, therefore, the ſame powers excite all the phenomena of life, and produce ſometimes an exceſs, ſometimes a juſt proportion, ſometimes a deficiency, of vigour, according to the various degrees in which they are applied; and ſince the ſame obſervation extends to the ſame powers, when they are applied as remedies of diſeaſes; let it be a general rule, never unguardedly to convert either diatheſis into the other. And, as every diſeaſe, that debilitating powers remove, is ſthenic, every one, that is cured by ſtimulant means, aſthenic; the knowledge of this may furniſh the proper means of caution againſt miſtake.

CHAP.

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THE

SECOND PART.

CHAP. I.

Of the noxious powers, which produce either diatheſis, ſthenic, or aſthenic.

CXI. THE powers producing the ſtate of the body, upon which the prediſpoſitions to ſthenic or aſthenic diſeaſes, as well as thoſe diſeaſes themſelves, depend—in other words, the powers producing both the ſthenic and aſthenic diatheſis—were enumerated before (XI. XII.).

The noxious powers producing both diatheſes.

HEAT *ſtimulates the whole ſyſtem—particularly the ſurface—Hence the inflammation in phlegmaſiæ is always external—and perſpiration from the ſtrong contraction of the ſmall veſſels of the ſkin is checked or ſuppreſſed*

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preſſed—Hence contagious matter is detained —EXCESSIVE HEAT *debilitates—particularly the cutaneous veſſels—How it checks perſpiration in aſthenic diſeaſes*—COLD *debilitates—Identity of operation of other debilitating powers—exceſſive heat, and cold, debilitate by producing painful ſenſation—Cold never uſeful but in ſthenic diſeaſes—Does not condenſe the living ſolids—Phenomena it produces by ſtopping the waſte of excitability—Cold affects the ſurface moſt*—MOISTURE—*No food can be too ſtimulating, except fleſh of land-animals—Seaſoning—Spirituous liquors — Diffuſible ſtimuli — Scale — Direct and indirect ſtimulus of food—Of vegetable food—How diffuſible ſtimuli produce debility —Of plethora—Muſcular exertion—Of penury of blood—Of diſcharges of blood, falſely called hemorrhages — Secreted fluids in too great quantity ſtimulate—In too ſmall debilitate—exertion and inertneſs of intellect—Effect of the paſſions—Of air—Powers applied ſingly ſeldom produce diatheſis.*

CXII. HEAT, which is neceſſary to the production, the growth, and the vigour of animals

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animals and vegetables, as alſo to the form of the elements (*a*), from its action upon the ſurface of the animal body, directly ſtimulates the whole; an effect which it alſo exerts upon vegetables. To this action of heat there is no exception while it keeps within a certain range; but when it is either deficient, where it takes the name of cold, or exceſſive, its effect varies. This ſtimulus, when moderate, produces its due effect; in an higher degree it produces more or leſs of ſthenic diatheſis.

CXIII. But as the action of heat is ſomewhat more exerted upon the ſurface than in the internal parts, where the temperature is nearly ſtationary, it ſtimulates the former more than the latter. Hence, in the phlegmaſiæ (diſeaſes with inflammation of a part) the inflammation is always external.—This agent increaſes the tone of all the muſcular fibres, and conſequently their denſity (ſee Chap. V.): which produces a ſuppreſſion of

(*a*) In a certain degree of diminiſhed heat water freezes; but if ſuch a diminution of it could be found as to freeze air, the whole fabric of the univerſe would ruſh into diſſolution.

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perſpiration, by ſome imputed to conſtriction from cold, by others to conſtriction from ſpaſms; both erroneouſly. Hence, as the diameters of all the veſſels are diminiſhed, ſo thoſe of the extreme veſſels every where, and eſpecially of the ſkin, where the cauſe is more powerfully exerted, are often entirely effaced. But this entire ſuppreſſion of the perſpiration is incompatible with prediſpoſition, and ariſes only from the diatheſis, when it extends to the juſt meaſure of diſeaſe. The perſpiration is diminiſhed during the prediſpoſition; but the condenſing power is not ſufficient to ſuppreſs it, till it attains the degree of producing the diſeaſe.

CXIV. Hence in the meaſles and ſmall pox, the irritating matter, together with the perſpiration, is detained. And not only in theſe, but all other ſthenic diſeaſes, is the perſpiration ſuppreſſed, the excitement both upon the ſurface and in the reſt of the body increaſed, and catarrh in particular induced *(b)*.

CXV. Heat

(b) Calefacients, or heating things, were one of the means that the alexipharmic phyſicians employed to force

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CXV. Heat in excefs, whether the excefs arife from long application or intenfity, conftantly debilitates, by diminifhing the tone, and producing laxity inftead of denfity. This effect is fomewhat greater upon the fkin, to which the direct energy of heat is applied, than in the interiour parts, in which there is little change of temperature. Hence arifes fweating as in the torrid zone; hence the diameters of all the veffels, and particularly of the perfpiratory veffels, are enlarged. Hence proceed the colliquative fweats in fevers, and a fimilar ftate of the bowels. Hence, alfo, corruption of the fluids, and not from any change immediately produced

force perfpiration; but the principle is now laid down, that fhows they produce the oppofite effect. Hence the merit of Dr. Sydenham in recommending cold, both in the fmall pox and in peripneumony, in which difeafe he took his patients out of bed, and placed them in an eafy chair. Happy had it been for the profeffion, and happier for the fick, had he extended his improvement to the meafles and catarrh, and all the reft of the few ftheniс difeafes, and ftopt there; but by extending his antiphlogiftic and refrigerant doctrine to the whole form of aſthenic difeafes, the harm and good he did were in the proportion of 97 of the former to 3 of the latter.

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by corrupting or putrefactive powers. The idea of certain powers having a tendency to corrupt our fluids, and of certain others to correct that effect, and take off the degeneracy, long prevailed in the minds of ſyſtematics, and is not among many of their followers yet laid aſide. Heat was one of the number; but that it acts ſo, is diſproved, not only by the explanation here given, but by the certainty of the fact, that the ſame effect is produced by cold, as well as every other debilitating power.

CXVI. Exceſſive heat in the violent meaſles, in the confluent ſmall pox, in fevers, and in every kind of aſthenic diſeaſe, in which the perſpiration is checked, does not leſſen the deficiency, though it expands and enlarges the veſſels, but, on the contrary, increaſes it; *i. e.* diminiſhes perſpiration.

CXVII. Cold, a power unfriendly to animals, vegetables, and the elements, weakens the whole ſyſtem, but the ſurface moſt, of which almoſt alone it diminiſhes the temperature. It produces this effect by a direct operation, always in proportion to its degree. Cold, equally with exceſſive heat, produces atony

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atony and laxity of the veſſels, gangrene, and the other effects of exceſſive heat. In Siberia the phenomena of cold on the human body very much reſemble thoſe of heat.

CXVIII. That theſe effects of the extremes of temperature ariſe from their debilitating, not from their generating putrefaction—from an affection of the excitement, not of the fluids—plainly appears from this; that other exciting noxious powers, ſuch as faſting, over-abundance of blood (as in the caſe of thoſe who die of peripneumony), and ſimilar noxious powers, which neither have been, nor can be, ſuppoſed to affect the fluids by any direct operation (*c*), produce corruption

(*c*) Faſting, acids, and cold, have all the ſame effects upon the fluids that the putrefying ſubſtances were ſuppoſed to have; but ſurely acids produce no putrefactive proceſs; neither can want act as poſitive matter; nor cold be ſuppoſed to produce any ſuch effect. In a word, any corruption that is produced, ariſes only from the weakneſs of the heart and arteries, predominant in their extremities. They ceaſe to act; the fluids within ſtagnate, and, under the heat of the body, degenerate. This is the true cauſe of the corruption. And the remedies are not correctors of the corrupted maſs; but

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tion of the fluids, and all the other ſymptoms; and the ſame ſtimulants, which remove the latter, remove the former. Nay, the ſuppoſed antiſeptics, ſuch as wine, peruvian bark, acids, and other things of that kind, either have no ſuch property under any circumſtances; or they neither are given, nor can be given, in ſuch quantity, as to affect the compoſition of the fluids: In fine, the effects of inanimate matters upon one another can never, with any propriety, be transferred to living ſyſtems. Though, then, the fluids are frequently corrupted, the corruption is the effect of weakneſs of the veſſels, which prevents them from being ſufficiently mixed and diffuſed, but it is never the original cauſe of diſeaſe.

CXIX. The diſagreeable ſenſation both

whatever invigorates the whole body, and conſequently the heart and arteries. Nothing can be more abſurd than to ſuppoſe that a glaſs or two of wine and water, a little bark, and ſo on, after being blended in the whole maſs of fluids, ſhould go to a portion of fluids in the extreme veſſels, even without the circulation, and, by mixing with it, change its qualities.

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from cold and heat in extreme, is alſo hurtful, by diminiſhing the ſum total of ſtimulant operation, which, in ſo far as it is agreeable, is ſerviceable by ſtimulating. (See note (*c*) in par. XXI.)

CXX. As cold is naturally ſo debilitating, and as all debilitating powers diminiſh excitement, it can never be of ſervice but in ſthenic diſeaſes, that is, in thoſe which are in their progreſs towards indirect debility (ſee CVI.); becauſe the excitability, already too abundant, can never be rendered more abundant, or, when too much waſted, be more accumulated, without an aggravation of the diſeaſe (XLVI. XLVII.); excitability admitting of leſs ſtimulus in proportion as it is either more abundant, or more ultimately waſted (*d*). When the debility is moderate, a miſtake of this kind is leſs evident: but in a high degree of debility of either ſort, a violent diſeaſe, or even death it-

(*d*) This obſcure phraſe, *more ultimately waſted*, has nothing anſwering to it in the original latin. It ſeems quite inconſiſtent with XXVI. and the other paſſages referred to. EDITOR.

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ſelf, may be the conſequence of the ſmalleſt increaſe of debility *(e)*.

CXXI. As cold as well as exceſſive heat relaxes, as is ſeen in the cure of the ſmall pox, and of every ſthenic diſeaſe, we learn, that the property of cold to condenſe inanimate matter does not extend to living mat-

(e) When the debility of the direct kind is very moderate, that is, the excitement has not ſunk much below 40 in the ſcale, the ſhort ſuſpenſion of a few degrees more would not do much miſchief. Suppoſe the excitement at 30 inſtead of 40, and a dip in cold water has brought it down to 25, the effect even of that is not of a trifling nature; the debility by this means has paſſed the whole range of prediſpoſition, and arrived at the degree where diſeaſe commences. It is true the excitement will riſe the moment the perſon is taken out of the bath; but ſtill ſomething is loſt. The very accumulation implies a reduced diſpoſition in it to be acted upon by ſtimuli. A perſon, who has abſtained from any one ſtimulus for a given time, when it is again applied, will not bear near ſo much of it as he did formerly. If he abſtains longer, he will bear ſtill leſs, till, at laſt, he will be fit to bear none at all. If, on the other hand, the excitement ſhould have fallen to 10, an addition of debilitating power would be attended with the utmoſt danger, not only of increaſing the diſeaſe, but of inducing death.

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ter *(f)*. The diminution of the bulk of the ſurface, or the ſhrivelling of the ſkin, ariſes from debility of the arteries, which do not propel the fluids with ſufficient force to diſtend the ſmall veſſels of the ſkin. In this way cold produces aſthenic diatheſis.

CXXII. But, as always leſs and leſs excitement ariſes in proportion as ſtimulant operation has been applied, till at laſt it ceaſes altogether; cold, as well as any other directly debilitating power, may, at ſome degree, produce health and all the degrees of ſthenic diatheſis *(g)*; in the following way, however, only. It ſtops the waſte of excitability, makes the body more ſuſceptible of ſtimulant operation, checks the progreſs to indirect debility, and ſtems the latter. But it only affects this by checking the effect of

(f) It has been alleged, that the diminution of the bulk of the body by cold, furniſhed an argument in favour of its being an aſtringent to it, as it certainly is a condenſer of dead matter.

(g) From the higheſt to the loweſt, from that degree of it, which, under the circumſtances here mentioned, produces a moderate catarrh, to that, where the modification of its action riſes to the degree of being adequate to the effect of producing a peripneumony.

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heat and other ſtimuli, which accelerate indirect debility, and by keeping the excitement within the bounds of vigour. Hence vigour in cold countries, when the body is defended by clothes, the ſhelter of a houſe, the warmth of a fire, as well as by its own proper motion. Hence alſo the bracing, by cold, of parts that have been relaxed by exceſſive heat. Laſtly, hence a remedy for the corruption of the fluids, which conſiſts in invigorating the veſſels, not in correcting the degeneracy of their contents. This effect of cold upon the ſurface, which is nearly the only part of the ſyſtem ſubject to refrigeration, is ſomewhat greater than on the internal parts *(b)*.

(b) This account of the ſalutary operation of cold is not complete, even according to the author's own principles. For as diſagreeable ſenſation, in his opinion, debilitates, cold may very often be ſo applied as by removing the very diſagreeable ſenſe of heat, that attends ſome diſeaſes, to produce an effect equivalent to ſtimulation. It is, I believe, exactly in this way that bathing the body with cold water proves ſerviceable in low fevers.—One great defect of this ſyſtem is the omiſſion of the actions produced by painful and pleaſurable ſenſation. EDITOR.

CXXIII. The

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CXXIII. The debilitating effect of temperature, and therefore alſo its hurtful tendency, is increaſed by moiſture.

CXXIV. Of the articles of diet, the only food in danger of being too ſtimulant, is the fleſh of land-animals, uſed in great quantity. Meat too ſalt, and hardened, eſpecially when it has now begun to ſpoil, is an exception.

CXXV. The ſame obſervation applies to condiment; of which a very ſmall portion, upon account of its high degree of ſtimulus, is ſufficient.

CXXVI. Spirituous or vinous liquors, in which the alcohol is always diluted, ſtimulates more quickly than ſeaſoned food; its ſtimulus is in proportion to the quantity of alcohol that it contains.

o. But there are ſtimuli, which poſſeſs an operation as much quicker, and more powerful, than that of the articles of diet, which are the agreeable and proper ſtimuli in health, as their operation is of ſhorter duration. To theſe the name of *diffuſible* may be given. They rank above ſtrong liquors in the following order:

r. Next to theſe liquors, and immediately above

above them, ſtands muſk; above it volatile alkali; higher than this æther; and the higheſt of all, as far as experiments have yet thrown light upon the ſubject, is opium (*i*).

ϱ. Theſe, according to their degree, poſſeſs the property of converting the aſthenic diatheſis into a ceſſation of all diatheſis, or of reſtoring health; of carrying health into ſthenic diatheſis, the ſthenic diatheſis into indirect debility, and the laſt into death; which they accompliſh with ſo much the more eaſe and promptitude, as they are more powerful than all other ſtimuli.—In the uſe of the diffuſible ſtimuli great care ſhould be taken to apply them only to the caſes that require them; which are only the diſeaſes of the higheſt debility, or of which the intolerable pain, beſides tormenting the patient, threatens the worſt conſequences.

(*i*) We are pretty certain of the exactneſs of that place in the ſcale which we have aſſigned to opium. Nor is our arrangement of the others uncountenanced by the ſame kind of criterion; but having not yet made all the trial neceſſary to eſtabliſh the propoſition, we defer any final deciſion of this point to an after opportunity.

CXXVII. The

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CXXVII. The ſtimulus of the articles of diet, not excluſive of the diffuſible ſtimuli, ſhould be denominated *direct*, becauſe it acts directly and immediately upon the excitability of the part to which it is applied. Direct ſtimulus, at leaſt in ſo far as it regards the food, is aſſiſted by another ſtimulus, depending upon a diſtention of the muſcular fibres, on which account, for the ſake of diſtinction, the latter ſhould be called *indirect*. The latter is owing to the bulk of animal and vegetable food; the former is produced by a relation or affinity of the ſtimulus to the excitability. The indirect acts upon the living ſolids in ſo far as they are to be conſidered as ſimple; the direct acts upon them as living only. From a long and habitual exceſs in food and drink, at laſt indirect debility ariſes, and the group of diſeaſes depending upon it (*k*).

6. All

(*k*) When I make a meal of animal food, much leſs bulk is requiſite to give the ſame nouriſhment, than when vegetable matter is the only one made uſe of. What makes the difference is, that there is ſomething in the animal matter which affords a nouriſhing ſtimulus, indepen-

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5. All theſe ſtimuli have alſo a tendency to produce aſthenic diatheſis.

CXXVIII. Vegetable food taken in whatever quantity, and too ſparing an uſe of animal, as alſo meat too ſalt, and deprived of its native juices by keeping, when at the ſame time better nouriſhing matter is withheld, conſtantly weakens, and thereby produces aſthenic diatheſis through all its degrees. Hence ariſes that remarkable imbecility both of body and mind, which diſtinguiſhes the Gentoos, who follow the brahminical ceremonial of religion. Hence the diſeaſes of the poor every where (*l*); hence ſcrofula fevers

independent of its bulk; and though the vegetable matter is not altogether devoid of that kind of ſtimulus, it, however, poſſeſſes it in a much ſmaller degree. Both ſtimuli are neceſſary, but chiefly the direct, by which animal food chiefly acts; and therefore is the vegetable the worſt and weakeſt ſort of aliment, becauſe it chiefly acts by its bulk of matter. A ſmall portion of the indirect ſtimulus is neceſſary; hence the very general uſe of bread. But our vigour of mind and body depends upon the direct.

(*l*) The nouriſhment of animal food needs only a little ſupport of tenſion from a moderate quantity of bread; but that vegetable food, even when ſupported by ſtrong

(*m*), fevers (*n*), epilepſy, cough with profuſe expectoration and hemorrhage, and the whole band of aſthenic diſeaſes. The direct debility flowing from this noxious power, affects the ſtomach ſomewhat more than other equal part (Chap. IV); the conſequences are loſs of appetite, ſickneſs, vomiting, very looſe belly, and other diſturbances of the firſt paſſages.

ſtrong condiments, in no quantity whatever, ever gives due ſupport, appears plainly from the inſtance brought in the text. Of the poor labouring people in Scotland, who chiefly live on vegetable matter, it would take three to go through the work that one Yorkſhire man, nouriſhed by bolting fat pork, can eaſily execute. And among the Gentoo ſervants a dozen is not able to perform as much work as a ſingle Engliſh ſervant. A year's experience of vegetable food, and its pernicious conſequences (ſee the Preface) has now put the queſtion, about the ſuppoſed ſalutary effects of low living, and the pretended virtue of a rigid obſervance of it, beyond all doubt, and brought irrefragable proof of its weakening effect.

(*m*) Scrofula, though ſuppoſed hereditary, produces its worſt effects, not from that circumſtance, but the method of management, both for the prevention and cure.

(*n*) Various particular, and ſometimes ſpecific cauſes, have been aſſigned for the production of fevers; but it ſhall be proved, that, whatever debilitates in a high degree, is adequate to that effect.

7. Exceſs

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r. Exceſs in the uſe of food conſiſting of the proper materials produces theſe effects, as well as improper aliment: as may be inferred from the univerſal effect of all the other ſtimulant powers, when their operation has been puſhed to the ſame exceſs (*o*). The mean betwixt the extremes of the hurtful powers, in ſo far as diet is concerned, is abſtinence (*p*).

CXXIX. Abſtaining from the uſe of con-

(*o*) It will now appear how far an aſſertion of the oppoſers of this doctrine is juſt or calumnious: low living and ſtarving are condemned for the facts and reaſons aſſigned; but can it now be ſaid, that the doctrine is friendly to intemperance? On the contrary, it has reduced the fact to its proper ſtandard, reprobating the extremes, and eſtabliſhing the mean under which virtue takes her poſt. It is certainly as immoral, or irreligious, if you will, to hurt health, and haſten death by abſtinence, as by a luxurious exceſs. There is a gloomy luxury in ſuperſtition, a cheerful one in ſenſuality; both bad.

(*p*) At leaſt it ſtands at the foot of the ſcale of directly debilitating powers, if they are to have the rank of ſtanding uppermoſt, as being moſt hurtful, and to be followed by the enumeration of the indirectly debilitating powers, as being next ſo, which, by the way, is the rank that nature ſeems to point out for both.

diments,

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diments, which, without animal food (*q*), are not ſufficient to give ſtrength, produces additional weakneſs.

CXXX. Neither diffuſible ſtimuli nor ſpirituous liquors are neceſſary for the young or the vigorous; they are not even ſafe, on account of their tendency to produce indirect debility. In perſons accuſtomed to ſtrong liquors, in the old and debilitated, weak, cold, acid, and fermenting liquors have great effect in bringing on the aſthenic diatheſis directly, as exceſs in ſtrong liquors has indirectly.

v. If the diffuſible ſtimuli are withdrawn from perſons habituated to them, the ſame effect follows as when the durable are withdrawn. The excitability accumulates, and direct debility comes on. Hence the diffuſible ſtimuli may be ſaid to produce aſthenic diatheſis. But aſthenic diatheſis is never the conſequence of withdrawing them, at leaſt in any conſiderable degree, but when they have been habitually uſed. And all the hurtful ef-

(*q*) As in the caſe of the Gentoos, who make uſe of a great deal of condiment with their vegetable aliment.

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ſects which they have moſt untruly, to the great detriment of mankind, been ſaid rather, than are now ſaid, to occaſion, ariſe not from themſelves, but from the want of knowledge how to manage them. And though the operation of diffuſible ought to be ſupported by that of durable ſtimulus; it ſhould not be confounded with the debilitating powers. What diſturbances, during the operation of opium, will not a breath of cold air upon the body create? And how eaſily, as well as quickly, are they all removed, by carefully covering up the patient! As there are caſes of indirect debility from an habitual abuſe of ſtrong drink, there are alſo others from a miſtaken or intemperate uſe of the diffuſible ſtimuli, particularly opium. Both of them require nicety and ſkill in the management of them for their cure; for which conſult Chap. XI. from par. CIII. to CX. The management is out of our preſent queſtion; but from this obſervation, we can clearly find, as it was to be expected from the analogous operation of the other exciting powers, that the diffuſible ſtimuli, when their operation is carried to exceſs, will alſo produce

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produce an aſthenic diatheſis of the indirect kind.

φ. Other diffuſible ſtimuli, as well as opium, and the more durable one of ſtrong liquor, by an indirectly debilitating operation, produce aſthenic diatheſis.

CXXXI. An abundance of chyle and blood is another ſtimulus: by this the excitement is every where increaſed, and particularly in the blood-veſſels, in a degree proportioned to the abundance. The quality of the blood, at leaſt, as a cauſe, is of no effect, it is the quantity only that is. The quantity, by diſtending the muſcular fibres of the veſſels, acts with a conſtant impulſe (*r*). The doctrine of

(*r*) The blood by its quantity diſtends the muſcular fibres of the veſſels; that diſtention ſtimulates the excitability in the fibres, and produces excitement, commonly called their irritability; thus excited, the fibres contract; the contraction of each portion ſends the wave onward to another portion: when the wave has paſſed any given portion of veſſel, its fibres again relax, and make way for the next, which is puſhed along in the ſame manner. In this way the circulation goes on in all caſes while life remains; contraction and relaxation conſtantly alternate; the former propelling the wave before the latter

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of plethora, ſo noted in the medical ſchools, is only applicable to ſthenic diatheſis, and takes

opens to receive the next. But the veſſel may be in different ſtates with reſpect to its power of either contracting or relaxing. When it is weak, which every part of the vaſcular ſyſtem is as often as all the reſt of the ſyſtem is weak, both the contraction and relaxation of each portion of veſſel is imperfect. The contraction from its ſmallneſs, and the relaxation from its being more owing to the paſſive ſtate of the ſimple, than the active ſtate of the living, fibres, leave betwixt them a large diameter upon the whole. But, in a vigorous, or ſthenic, ſtate of the whole ſyſtem in general, and of that of the veſſels in particular, the contractions are ſtrong and forcible, and the relaxations active and in conſent with the contractions. Hence the diameter of each portion of veſſel is diminiſhed upon the whole, and while the quantity of the blood is at the ſame time increaſed, the action and re-action are great; the blood diſtends with mechanical, the veſſels reſiſt with vital energy; the mutual effect of both upon the excitability is conſiderable; all is activity, all is force, and theſe are in exact proportion to their cauſe over all the ſthenic diatheſis. This ſtate of the veſſel, in ſo far as it reſpects the muſcular fibres, is its tone; in ſo far as it reſpects them as ſimple ſolids, its denſity. It is a ſthenic ſtate of the veſſel, oppoſed to the aſthenic firſt deſcribed, which is diſtinguiſhed by the epithets of atony and laxity; which, however, oppoſed to tone and denſity are only

takes place in proportion to its degree (*s*).

CXXXII. The effect of diſtention is increaſed by the velocity of the blood, both as ariſing from other ſources, and eſpecially from muſcular motion, a motion, which, by compreſſing the veins, carries the blood more quickly back to the heart.

CXXXIII. Nothing is more effectual than theſe two laſt mentioned ſtimuli, in producing ſthenic diatheſis, and the diſeaſes depending upon it. Theſe diſeaſes are violent in proportion to the over-proportion of the blood, and the rapidity of the force with which it flows; a fact, that is proved by all the exciting powers, all the ſymptoms of thoſe diſeaſes, and, eſpecially, the pulſe; it is alſo proved by the great efficacy of bleeding, purging, abſtinence

only relative terms, employed for convenience, not abſolute; like the term cold, uſed for diminiſhed heat, they only ſignify a diminution of tone and denſity.

(*s*) It is a curious fact, that, while the truth of this propoſition is demonſtrated, the plethora of the ſchools is only underſtood of a ſtate of the veſſels diametrically oppoſite to a juſt idea of plethora.

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from food, and reſt, in the cure of the diſeaſe (*t*).

CXXXIV. While an over-proportion and velocity of blood is a chief cauſe of ſthenic diatheſis; there is nothing more powerful in producing the aſthenic, than that penury of blood which the greateſt celerity of motion accompanies. Hence, the ſmallneſs, weakneſs, and quickneſs of the pulſe: Hence the excitement is diminiſhed every where, and, in preference to other equal parts, in the whole ſanguiferous ſyſtem, and that in exact proportion to the penury.

χ. From this ſtate of the veſſels, ariſes the diſcharge of blood from the lungs, from the uterus, from the anus, or around the anus, from the urinary paſſages, and through the perſpiratory pores. Hence ariſe diſturbances of the ſtomach, want of appetite, loathing of

(*t*) Relief from bleeding and other evacuations is certainly a good argument for the cauſe of the diſeaſe being ſo far owing to an over-proportion of blood; and reſt is as good for the proof of agitation of the veſſels being concerned in the cauſe: beſides, exerciſe is otherwiſe a noted cauſe of quickneſs of the pulſe: and the hurtful powers and ſymptoms are equally deciſive.

food,

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food, and, therefore, upon account of want of nouriſhment, and the languor of the digeſtive organs, always leſs and leſs blood ariſes in the ſyſtem. So great a penury of blood is the principal origin of bleeding diſeaſes; which never happen but in the aſthenic ſtate. The ſame penury of blood acts in this manner, chiefly affecting its own veſſels, becauſe, according to a law ſo often mentioned, its debilitating energy chiefly falls upon them. In ſthenic diſeaſes, that have advanced to their height, or a little beyond it, a few drops of blood from the noſe, or a dropping of blood from the ſame, or any other part, demonſtrate only a prediſpoſition to indirect debility, but not an eſtabliſhment of it, and that the matter ſtill remains within the operation of exceſſive ſtimulus (*u*)

ψ. Thus

(*u*) Who ever heard of a flood of blood coming from the lungs in a peripneumony? Or, who has not heard of it in conſumptive caſes; which are the diſeaſes depending upon the laxity of veſſels of which we are ſpeaking. What vigorous woman, found in all her functions as a woman, ever fell into perpetual floodings? What had been the ſtate of theſe women before the diſeaſe? Did they eat and digeſt ſo completely, as that there was any

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ψ. Thus it is not an exceſs in the quantity of blood, but laxity and atony of veſſels from its

reaſon for ſuppoſing their veſſels were filled with blood? No; long before the arrival of the diſeaſe their appetite was puny, and, conſidering the kind of matter they made uſe of, to wit, vegetable, it was not to be ſuppoſed more beneficial from its quality than its quantity. What was the idea to be gathered from their ſymptoms, and particularly the pulſe? The pulſe had all the marks of an aſthenic one; being weak, ſmall, and quick, like that of a new-born infant. What was the ſtate of their habit? Was it vigorous and robuſt? It was the reverſe; ſoft, delicate; the habit lax; a falling off in fleſh, with weakneſs over the whole ſyſtem, and total loſs of appetite. What were the remedies employed to remove this ſuppoſed offspring of plethora? Bleedings, repeated without end; other evacuations with the ſame freedom; vegetable food in a fluid form; and a horizontal poſture, with their head lower than their body and under-extremities. Miſerable are the reſources of ignorance, and contemptible their execution! Fill a rigid tube, open at both ends, full of water, and the fluid, no doubt, will run out at the end which is moſt below an exact horizontal poſition. But that is not the caſe with the fluids in living veſſels. The excitement, diſtinguiſhing them from all rigid inanimate tubes, counteracts the effect of gravity, while its living ſtate remains: In proportion to the degree of which, the ſides of the veſſel will embrace their column of fluids, and prevent the flowing

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its deficiency, that upholds the bleeding diſcharges; which proceed in their courſe, not with any effort or active impulſe, but a diminution of tone: They are all aſthenic, and the aſthenic diatheſis, as far as it depends upon them, conſiſts in direct debility.

ω. But, as every other exciting noxious power may induce indirect debility, ſo alſo, may an over-proportion of blood. For the veſſels, diſtended beyond all bounds, may, by the exceſs of that ſtimulus, exhauſt their own excitability, and, thereby, put an end to their excitement. Upon which the forcible contractions are converted into languid ones, or

flowing out of the fluids, in proportion to the degree of excitement; and before the gravity can act, the excitement muſt be extinguiſhed, and the living ſyſtem reduced to a lumpiſh maſs of dead matter. It is the latter that enables them to produce that effect. And, therefore, bleeding diſcharges can never happen, either in health or ſthenic diatheſis, unleſs in that very high degree of it that approaches to indirect debility, and even then, only in the forced, ſcanty, manner deſcribed in the text; whereas, after the eſtabliſhment of indirect debility, or in the caſe of direct, the great diſcharges only can happen, and that without force, in great plenty, but ſtill ſhort of what would happen if no excitement reſtrained it.

ſuch

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ſuch as can ſcarce be called contractions at all; and the area formerly effaced becomes extremely patulous. The finer parts of the fluids flow through the patulous extremities of the arteries, wherever they find an out-let, and carry with them, ſometimes ſerum, ſometimes red blood.

In the aſthenic diatheſis, as well as the ſthenic, it is not the quality of the blood, but its quantity, which is prejudicial, and the fault in quantity here is deficiency. The deficient quantity produces the ſymptoms of the pulſe deſcribed above, by not ſufficiently diſtending the veſſels, and giving them ſufficient excitement. Plethora, which has been thought to belong to this form of diſeaſes only, has abſolutely no exiſtence in it. The ſtate of the veſſels, with reſpect to the quantity of blood in them, that is pleaſant and ſuitable to health, is the mean betwixt the extremes that have been deſcribed.

CXXXV. This ſtate of the blood and veſſels, that is, penury of blood, and atony and laxity of the veſſels, chiefly from direct, ſometimes from indirect debility; though the latter caſe is exceedingly rare, is the chief origin

gin of aſthenic diſeaſes; of this the very hurtful effects of evacuation, eſpecially bleeding, as well as vomiting, purging, and every other mode of diminiſhing the bulk and quantity of fluids give full proof. This proof has of late received a further confirmation, in the ſingular ſucceſs of the cure by other ſtimulants firſt, and then by every mode of filling the ſyſtem (*x*).

CXXXVI. The different fluids, ſecreted from the blood, are, by the diſtention which they give to their reſpective veſſels, alſo underſtood to ſtimulate. In this reſpect the milk and ſemen, by the abundance of each in its reſpective veſſels, and likewiſe the perſpirable fluid, are the moſt remarkable. The

(*x*) Syſtematics allow that there are many diſeaſes, which are a reproach to their art, from their never yielding to their method of cure, but on the contrary, becoming worſe and worſe in proportion to the time and pains taken about it. Of theſe *opprobria medicinæ* (it would be better, I believe, to call them *opprobria medicorum*) few are more ſo than the bleeding diſeaſes; which ſeem uniformly to have proceeded from evil to worſe under the evacuant debilitating plan; while it has now been found, that the high ſtimulant plan removes them with the greateſt ſucceſs.

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commotion of the ſecretory organ (*y*) is eaſily diffuſed by means of the excitability, which is one undivided property, over the whole body, and, when it riſes to exceſs, is capable, with other powers that communicate an exceſs of excitement, of producing ſthenic diatheſis.

CXXXVII. The ſame ſecreted fluids, when they do not ſufficiently diſtend their reſpective veſſels, when they do not communicate enough of excitement, make no inconſiderable part of the hurtful powers, that conſtitute aſthenic diatheſis.

A. For which reaſon vomiting, purging, and every other evacuation, are powerful inducers of aſthenic diatheſis, which they effect in proportion to the debility that attends their operation. The ſame thing is to be ſaid of

(*y*) It has been ſaid above, in chap. 4, that the excitability is one uniform undivided property over the whole living ſyſtem; and that, wherever it is acted upon in any part of its ſeat, it is affected over all. This fact, which is ſtrictly true and univerſal over every part of living matter in nature, with the utmoſt eaſe explains many things, that were confeſſedly inexplicable upon every other medical doctrine; and, among the reſt, the ſeveral affections of the ſecretory ſyſtem.

exceſs

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exceſs in venery, which is partly an indirect, partly a direct, always a great, debilitating power (*z*).

B. Sometimes the ſecretory veſſels ſeem crammed with a colluvies of fluids, capable of producing indirect debility, as in that overflowing of bile, which diſtinguiſhes the yellow fever of the torrid zone (*a*). Here too the

(*z*) Nothing is more effectual in haſtening death than a love marriage betwixt an old man of worn out excitability, and a young beautiful virgin: I need not explain to any reader on which ſide, that of the man or the wife, either the love or the danger lies.

(*a*) I have been ſo often, and by perſons of good ſenſe enough to make juſt obſervations, informed of the neceſſity of purging off the redundancy of that fluid, which not only fills the inteſtines, but diffuſes itſelf over the whole alimentary canal; and, then, of following out the cure of the diſeaſe by the uſe of wine, ſpirits, and the diffuſible ſtimuli, that I have, though at firſt with ſome reluctance, admitted the fact. The reaſon of the ſlowneſs of my aſſent to it was, that, upon every other occaſion of any accumulation of matter in the firſt paſſages, even in the colic itſelf, I had always found the practice of invigorating the periſtaltic motion; by ſtimulants, ſufficient to clear away all ſuch extraneous matter; while vomiting and purging, by their relaxing effect upon the veſſels, ſerved to generate more, and

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the debilitating effect tends, by means of the excitability, to diffuſe the diatheſis over the whole ſyſtem.

From this ſource ariſe, a languid action of the extreme veſſels (*b*), a ſlow motion of the fluids, laſtly a ſtagnation and corruption of them. The diminution, or temporary deſtruction of excitement, over ſo conſiderable a part

and increaſe the cauſe of the diſeaſe, which is always debility: This I found not an exception to that general principle, but an inſtance of a ſort of local diſeaſe, from an over-repletion of the exhalant mucous and biliary veſſels.

(*b*) Theſe are the exhalants that pour out the ſaline, watery part of the blood unchanged; the mucous glands that change, by their ſecretory operation, the fluid they receive from the blood; the pori biliarii that change the fluid that they receive from the extremities of the veins of the gate, and of the hepatic artery, or artery of the liver; the little ducts which theſe form by the union of numbers into ſingle veſſels; the hepatic duct or great biliary veſſel of the liver, which receives the bile from all the ducts; and, laſtly, the ductus communis choledochus, or the duct that may be denominated in Engliſh, the general receiver of all the bile, whether from the great duct of the liver, or that which ſends to the gall-bladder a part of the bile that returns in the ſame veſſel to the general receiver. Theſe, and beſides them, the inhalants

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a part of the ſyſtem (*c*), communicates debility, by means alſo of the excitability, to the reſt of the body; and, in conjunction with other noxious powers that produce too little excitement, gives riſe to the aſthenic diatheſis.

7. The various ſorts of geſtation, as riding on horſeback, going in a carriage, uſing an hobby, and ſailing, as alſo of exerciſe and labour, by rouſing the muſcles into contraction, and thereby accelerating the motion of the blood in the veins toward the heart, while the valves prevent its taking a contrary direction, greatly promote excitement in all the veſſels, and, therefore, over

inhalants or abſorbents as they are called, to wit, the ſmall veſſels that take up from the exhalants and other arterial terminations of veſſels, the fluid, called lymph, which is once more to be returned into the circulation; are the veſſels that ſuffer the concourſe of ſymptoms deſcribed in the text.

(*c*) How great the ſpace in the whole ſyſtem is that theſe veſſels occupy, may be eaſily imagined, when it it is conſidered, that every evaneſcent artery, over the whole body, terminates in one or more of theſe colourleſs veſſels that have been deſcribed.

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the whole ſyſtem; and the effect may go ſo far as to produce ſthenic diatheſis *(d)*.

Δ. As nothing contributes more to health than moderate and frequent exerciſe, and as its exceſs acts in the manner juſt deſcribed, a degree, either greater or leſs than the ſalutary degree, will produce the aſthenic diatheſis; the former by waſting the excitability, the latter by with-holding a neceſſary ſtimulus; that is, the one by debilitating indirectly, the other directly.

CXXXVIII. Thinking, which more immediately affects the brain, than any other equal part of the ſyſtem, encreaſes excitement over the whole body *(d)*. Intenſe thinking

(d) Too undiſtinguiſhing again! Theſe kinds of geſtation are well known often to produce general languor; and even the ſymptoms of debility. So does ſwinging, eſpecially circular ſwinging, or *twirling*. So, I believe, does walking at a certain ſlow rate, or *ſauntering*; by which I have found the force of the circulation to be much diminiſhed. EDITOR.

(d) None of the exciting powers have more influence upon our activity than the two which are juſt going to be mentioned, the exerciſe of our intellectual function, and

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thinking, whether for once in a great degree, or often repeated in a leſs degree, or habitual, may alone prove hurtful; but, in conjunction with other powers alſo hurtful from

and that of paſſion or emotion. With reſpect to the former, Homer obſerves of the hero, whom he gives for a pattern of eloquence, that upon his firſt addreſs, that is while he was under ſome agitation, and had not yet gotten into his train of thought, he was awkward in every motion, and in his whole attitude; he looked down to the ground, his hands hung ſtraight along his ſides as if powerleſs; his whole appearance was torpid. But when he once entered upon his ſubject, his eyes were all fire, his limbs all motion, with force, grace, and energy. Upon commencing a lecture, the pupils have often obſerved the ſame torpor in the lecturer, and a ſimilar vivacity and life in a few minutes, when he had gotten fairly into his ſubject: the report which a lecturer's daughter, upon looking through the hole of a door, while the lecture was going on, made to the family and ſome company then preſent, was, that her father looked, in his lecture, as if he would look through his hearers. Mr. Donaldſon is one of the few great maſters, in the art of painting, who never fail, with a moſt exact likeneſs, to diſplay the whole influence of the mind upon the features. A miniature of the author, done by him, as a preſent, is reckoned the greateſt maſter-piece in theſe reſpects, that ever came from the hands of a painter.

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their exceſs of ſtimulus, becomes more ſo, and may produce ſthenic diatheſis.

CXXXIX. An evident cauſe of aſthenic diatheſis is that ſtate of the intellectual function, in which exceſs in thinking, by waſting the excitability, ends in indirect debility; or that deficient, weak, vacant ſtate of mind, incapable of keeping up a train of thought, which produces the ſame hurtful effect by direct debility. This faulty ſtate of the mind contributes greatly to weaken the ſyſtem *(f)*.

CXL. Violent paſſions, as great anger, keen grief, unbridled joy, riſing to ſuch a pitch as to deſtroy excitability, have the ſame effect as exceſſive thinking, and admit exactly of the ſame reaſoning.

CXLI. Paſſion ſo ſtrong as to exhauſt the excitability induces that aſthenic diatheſis, which is occaſioned by indirect debility, and diſeaſes of that ſtamp. Hence epilepſy,

(f) It may often be remarked by phyſicians, that their patients, after every other proper part of cure has been executed, are never completely reſtored to their healthy ſtate, till they are again engaged in their uſual occupations both of mind and body.

hence

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hence apoplexy, which, when the mind has been ſcrewed up to the higheſt pitch of paſſion, often proves fatal.

CXLII. On the contrary, deficiency of paſſion, (as in melancholy, grief, fear, terrour, deſpair, which are only lower degrees of joy, aſſurance, and hope, and imply only a privation of the exciting paſſions, and are by no means poſitive emotions of a contrary nature) tend to produce that aſthenic diatheſis, which depends upon direct debility. The immediate conſequence is loſs of appetite, loathing of food, ſickneſs, vomiting, pain of the ſtomach, diarrhœa without pain, or with pain, indigeſtion, colic, the gout, and fever.

CXLIII. The exerciſe of the ſenſes, when it is agreeable, has great effect in exciting the whole body, and in producing emotions, which, together with the noxious powers mentioned above, may eaſily produce ſthenic diatheſis. Theſe emotions are felt in drinking, dancing, in agreeable entertainments, where the eye is dazzled with the ſplendour of the diſhes, of the company, and of all the objects around.

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CXLIV. The exercise of the senses, when excessive, produces indirect debility. On the contrary, when the senses are either in part destroyed, or impaired, or disagreeably affected (*g*), the mind is dejected, and the whole body thrown into a state of languor and direct debility. In both cases, especially when there is a concurrence of other debilitating powers, the asthenic diathesis arises.

CXLV. The effect of the air, independently of its sensible qualities, and its use in supporting respiration, is less obvious, than that of the other powers that have been spoken of; at the same time it cannot be doubted, that its application to the whole surface of the body is a necessary stimulus. The air is seldom applied in a pure state: it is commonly blended with foreign matters that diminish its stimulating power; and, though its salutary stimulus depends upon its purity, it is

(*g*) Nothing is more clearly disagreeable than an obscure light, as when one reads with a small or unsnuffed candle. Hence the luxury of more candles than one, or of wax or spermaceti candles. This is often experienced at Ranelagh, and may be seen in children exquisitely amused.

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uncertain whether ever its purity goes ſo far as to ſtimulate in exceſs, and thereby produce ſthenic diatheſis. The lately invented balloons, by which men aſcend above the clouds, would throw much light upon this matter, if it were not for the cold of the upper regions of the atmoſphere. Be that as it may; ſince we live commodiouſly enough, without air of the greateſt purity, too pure an air has probably a tendency to produce ſthenic diatheſis, by ſtimulating in exceſs.

CXLVI. But, as nothing is more common than impure air, and as every impurity diminiſhes its ſtimulus, a very impure air without doubt debilitates, and produces aſthenic diatheſis. Accordingly, impure air is a frequent cauſe of typhus, as is evident from the fate of thoſe who died in the black hole of Calcutta (*b*). Whether ever the air, from

(*b*) Is it ſo certain that theſe people died of typhus? I hope to elucidate this queſtion ſoon by experiment. In the mean time I may refer the reader to a caſe, in which the inſpiration of oxygene air produced exactly the ſame violent effects as opium had done. The circumſtances of the patient rendered it abſolutely certain

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from an exceſs of purity, produces aſthenic diatheſis, is the more doubtful, becauſe, as has been ſaid, it is as yet undecided whether it produces ſthenic diatheſis or not.

E. Contagious matter, in ſo far as it may have any tendency to produce general diſeaſes, in one form produces ſthenic, in another aſthenic diſeaſes, and, therefore, acts like the ordinary noxious powers, and admits of exactly the ſame reaſoning. But, in ſo far as it only occaſions eruption, without making any change in the excitement, it is to be referred to the local diſeaſes.

Z. To poiſons, if they act as general ſtimulants, all the reaſoning that has been employed with reſpect to the other noxious powers, will apply. It is not, however, likely that they are general ſtimulants.

CXLVII. It is ſeldom by the ſeparate, almoſt always by the united, operation of all

that he had taken very little wine or other ſtimulants, indeed leſs than uſual. This caſe would have been the occaſion of great triumph to Dr. Brown, had he lived to read it. See a caſe of epileptic affection in *Letters from different phyſicians to Dr. Beddoes.* The caſe is ſingular in degree, but not in kind. EDITOR.

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the powers, that both the diatheſes, whether they remain within the range of prediſpoſition, or riſe to the degree of actual morbid ſtate, are produced, and by no inherent power in the ſyſtem.

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CHAP. II.

The cauſe of each diatheſis—Sthenic from too great—aſthenic from too little excitement.

CXLVIII. THE cauſe of ſthenic diatheſis is too great an excitement of the whole living ſyſtem by the powers above-mentioned. All the functions are firſt increaſed, a diſturbance or irregularity then takes place in ſome, others are impaired; but not, as long as this diatheſis laſts, by a debilitating operation.

CXLIX. The cauſe of the aſthenic diatheſis, ariſing from the debilitating noxious powers, is too little excitement of the whole living ſyſtem, impairing all the functions, diſturbing ſome, giving a falſe appearance of increaſing others, but always debilitating. It muſt now appear to the reader, to what ſimplicity the hitherto conjectural, incoherent, erroneous, myſterious, and enigmatical art of phyſic, is reduced. It has been demonſtrated, that there are only two forms of

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of diſeaſes; that the deviation from the ſtate of health, in which the morbid ſtate conſiſts, is not either repletion or inanition; or changes in the qualities of the fluids, whether of an acid or alkaline nature; or the introduction of foreign matters into the ſyſtem; or a change of figure of the extreme particles, or a diſproportion in the diſtribution of the blood; or an increaſe or decreaſe of the power of the heart and veſſels as regulating the circulation; or a rational principle governing the actions of the body; or an alteration in the extreme particles, as being of too large or too ſmall a ſize; or an alteration of the pores, as being too narrow or too capacious; or a conſtriction of the ſuperficial veſſels from cold; or a ſpaſm of theſe veſſels, producing a reaction, as it is called, of the heart and interiour veſſels; or any thing that any perſon has yet thought of reſpecting the cauſe and nature of morbid ſtate. On the contrary, it has been proved that health and diſeaſe are the ſame ſtate depending on the ſame cauſe, that is, excitement, varying only in degree; and that the powers producing both are the ſame, ſometimes acting with

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with a proper degree of force, at other times either with too much or too little; that the whole and ſole province of a phyſician is not to look for morbid ſtates and remedies which have no exiſtence, but to conſider the deviation of excitement from the healthy ſtandard, in order to remove it by the proper means. The reaſoning part of this doctrine, it is expected, the reader will find irreprehenſible and unanſwerable; and the practical part, from the aſtoniſhing cures that have upon innumerable occaſions been effected, will ever ſtand in ſupport of the truth and utility, as well as ſimplicity of the whole.

CHAP.

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CHAP. III.

The ſthenic diatheſis—Increaſe of all the functions previous to the diſturbance of the functions.

CL. PREVIOUS to the diſturbance of the functions, which the hurtful effects of both ſets of powers produce, and which never happens till after the formation of diſeaſe (*a*), and even then only when the attack

(*a*) During the prediſpoſition to peripneumony, as well as to every other diſeaſe, neither the ſymptoms of diſturbance, or any other ſymptoms at all appear. And in mild caſes, ſuch as catarrh, the ſmptoms of diſturbance occur not through the whole courſe of the diſeaſe: But when a diſeaſe is, like the peripneumony or the gout, of a violent nature, then the ſyſtem is commonly diſturbed, and in a moſt conſpicuous degree. The affection of the lungs in the former, from the inflammation within, and of one of the feet, or ſome other part in the latter, from an external inflammation, give extreme diſturbance to the affected parts, while there is a diſeaſe of the ſame nature as the gout, that is dyſpepſia, or indigeſtion, in which the inflammation never appears.

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is violent, all the ſenſes are acute, the motions both voluntary and involuntary (*b*) are vigorous, there is an acuteneſs of genius, great ſenſibility, and tendency to paſſion and emotion. The ſeveral parts of the body are perceived to be in a ſtate of vigour from the following marks; the heart and arteries from the pulſe; the extreme veſſels on the ſurface of the body from the colour; all the muſcles from the ſtrength they exert; the internal ſecretions from the great quantity of milk and ſemen; the digeſtive organs from the ſtrong appetite, the power of digeſtion, the vigour of body, and the manifeſt abundance of blood.

(*b*) The voluntary motions are thoſe that are performed under the influence of the will, ſuch as the motion of the limbs in walking, or in any ſort of exerciſe. The organs, by which they are moved, conſiſt of bundles of moving fibres called muſcles. The involuntary motions are thoſe of the interiour part of the ſyſtem, ſuch as thoſe of the heart and veſſels connected with it; the periſtaltic motion in the firſt paſſages, which are the paſſage to the ſtomach, the ſtomach itſelf, and the whole convolutions of the inteſtines; as alſo thoſe of the womb, of the bladder of urine, and ſo forth. None of the latter are under the influence of the will.

CLII. A

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CLI. A compariſon of the ſtate of the intellectual faculties, and of the diſpoſition to paſſion and emotion, in this diatheſis, in good health, in the ſecond form of diſeaſes and the prediſpoſition to it, will ſhow how much they are heightened in the ſthenic diatheſis.—So much for the increaſe of the functions.

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CHAP. IV.

The ſthenic diatheſis illuſtrated by an explanation of its ſymptoms — Functions increaſed from excitement — Shivering from leſſened perſpiration — Increaſed circulation — High colour of the ſkin — Delirium — Thirſt and heat — Affection of the thorax — Paleneſs and corrugation of the ſkin — Pale urine — Coſtiveneſs — Appetite — Proper diet — Symptoms affecting the ſtomach explained — Why inflammation in phlegmaſiæ is external — Local ſthenic inflammation — Phrenitis — Peripneumony — Puſtules.

CLII. THE increaſe of the force of the ſenſes, of the motions, of the intellectual faculty, and of the paſſions, depends upon the increaſe of excitement in every one of their organs, by which, beſide other effects, the motion of the blood through them is quickened.

CLIII. The onſet of every ſthenic diſeaſe is

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is announced by ſhivering. This depends upon a diminiſhed perſpiration, by means of the diatheſis being exquiſitely ſtrong in the extreme veſſels of the ſkin. The ſame explanation is to be given of the ſenſe of cold, which commonly accompanies the ſhivering; and of the dryneſs of the ſkin.

CLIV. In theſe diſeaſes the pulſe is ſtronger, harder, fuller, and ſomewhat more frequent, than in the healthy ſtate. Its fulneſs and hardneſs are owing to the plentiful uſe of animal food during the prediſpoſition. The force and frequency are occaſioned by this or any other ſtimulus, as ſtrong liquor or exerciſe, whether corporeal or mental: Nay all the ſtimulant noxious powers are adequate to this effect.

CLV. If, in the progreſs of the diſeaſe, the pulſe ſometimes becomes weaker, ſofter, emptier, and quicker, that is a bad ſign. This circumſtance is occaſioned either by the debilitating plan of cure being puſhed beyond the proper bounds; or where this method of treatment has been neglected, it may be owing to debility induced by the exceſs of excitement.

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citement. The former of theſe is direct, the latter indirect debility; both to be avoided.

CLVI. The redneſs of the ſurface of the body, which is often preceded by paleneſs, and by a great increaſe of ſecretion, is occaſioned by an over-proportion of blood, in conſequence of an exceſſive ſthenic diatheſis obſtructing the perſpiration. The ſame is the cauſe of the head-ach and pains in different parts. For, as the head-ach ſo quickly and eaſily yields to bleeding, it is ſeldom to be ſuſpected of being owing to inflammation within the head. And the reaſon for ſo thinking is ſtrengthened by this further circumſtance, that the inflammation ariſing in general diſeaſes affects external parts only, as far as we know at preſent.

CLVII. The delirium alſo, that ſometimes ariſes in a violent ſtate of diſeaſe, is not to be imputed to inflammation, and for the ſame reaſon; for it yields ſo readily to bleeding and other evacuations, that there is no reaſon for ſuſpecting inflammation within the head. That abundance of blood, by diſtending the veſſels to exceſs, is the ſole cauſe, is

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proved on the one hand by the redneſs of the face *(c)*, which indicates this abundance, and on the other by bleeding removing the diſeaſe at once.

CLIX. Thirſt and heat, which are alſo remarkable ſymptoms in ſthenic diſeaſes, depend upon the ſthenic diatheſis in the extreme veſſels of the fauces and ſkin; in conſequence of which theſe veſſels become ſo conſtricted that the perſpirable matter cannot be diſcharged. At the ſame time as the blood finds its way very near to the extremities of the veſſels, it accumulates under the cuticle the heat generated in the ſyſtem, which would be continually carried off, if the perſpiration were free. So alſo from the affection of the ends of the veſſels in the the throat, the ſaliva and other fluids, by the free flow of which the throat is lubricated and freed from that ſenſe of dryneſs, which is called thirſt, are now ſuppreſſed,

(c) This redneſs is no proof of abundance of blood; temporary exceſs of exertion in the veſſels of the part will produce it. In many diſeaſes it comes and goes, where no plethora can be ſuſpected. EDITOR.

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and prevented from flowing out, and thirſt is the conſequence.

CLX. Hoarſeneſs, cough, and expectoration, which are ſometimes obſerved in ſthenic diſeaſes, commonly ſucceed each other in the following order:—hoarſeneſs, then a dry cough, then a cough with expectoration. The cauſe of the hoarſeneſs and dry cough is an obſtruction of the exhalants and mucous veſſels, which terminate in the bronchia, and are prevented from tranſmitting their contents to lubricate the air-veſſels *(d)*, ſo that the hoarſeneſs may be removed, and the expectoration take place with freedom. Again, the expectoration is afterwards free, becauſe the diatheſis being now diminiſhed, and al-

(d) The bronchia are the diviſions of the wind-pipe running through the ſubſtance of the lungs, and blended with the blood-veſſels. In the ſubſtance of the lungs, beſides theſe two ſets of veſſels, the air-veſſels and blood-veſſels, there are likewiſe exhalants, ſmall arteries, and mucous glands, coming off from the extremities of the red arteries. The wind-pipe is covered with the latter; and the great quantity of mucus thrown up from the lungs, often in perfect health, and in innumerable caſes, both of ſthenic and aſthenic general diſeaſe, ſufficiently proves the exiſtence of the ſource from which it flows.

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lowing the ends of the veſſels to be relaxed, and the fluids to be poured out in abundance upon the air-veſſels, this whole organ is ſtimulated, and the fluids are thrown out with a cough or convulſive motion.

CLXI. As the greater freedom of expectoration now implies an abatement of the diatheſis; ſo too great a flow, and too long a continuance of it, ſhows, that the diatheſis is declining faſt into the aſthenic ſtate; either from indirect debility, as when the diſeaſe, in its progreſs, has much exhauſted the excitability; or from direct debility, as when the plan of cure, proper in kind, has been puſhed beyond due bounds.

CLXII. Theſe ſymptoms, while they ſtop ſhort of direct debility, or are not yet changed into the indirect, are occaſioned by heat, and whatever ſtimulates in exceſs, and removed by cold, and whatever acts as a weakening power.

CLXIII. Paleneſs and ſhriveling of the ſkin, clearneſs of the urine, and bound belly, which chiefly happen about the beginning of the diſeaſe, ariſe from a degree of the diatheſis, ſhutting up the ends of the veſſels in ſuch

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a manner, that either nothing is excreted, or the thinner part, as in the caſe of pale urine, only eſcapes. The ceſſation of the affection of the urine, of the obſtructed perſpiration, and of the coſtiveneſs, ſhows that the diatheſis is now gradually abating, the diſeaſe becoming mild, and that it may entirely be removed by emetics, purgatives, ſudorifics, and other debilitating remedies.

CLXIV. In ſthenic diſeaſes, when they are mild, the appetite is often not much diminiſhed; and ſtill oftener more food is deſired than is ſerviceable. But every thing, except the lighteſt vegetable matter, in the form of watery potion (*e*), will do harm.

CLXV. When either from indulgence in rich food, or from a ſtimulant plan of cure, or from the diſeaſe having ariſen from very active, noxious powers, and attained its higheſt degree of violence; in any, or all theſe circumſtances, the other bad ſymptoms, mentioned above, break out directly, and the violent diſorders of the ſtomach, or an acute

(*e*) It ſhould be cold too, according to this ſyſtem. EDITOR.

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pain of the thorax, ſhow themſelves indirectly.

CLXVI. In a violent diatheſis, therefore, where there is little appetite for food, but a very great deſire for drink; the patient is by all means to be gratified with the latter; but food ſhould be avoided, as producing loathing, ſickneſs at ſtomach, and vomiting. Theſe ſymptoms are not uſually of long duration, unleſs when the diatheſis is now changing or actually changed into the aſthenic ſtate by the means mentioned above; but on removing the other ſymptoms by the proper debilitating plan of cure, they go off. When the ſickneſs and vomiting are urgent, and begin now to be a little more obſtinate, and have laſted ſome time, one may know that the diatheſis ſtill remains ſhort of the change into indirect debility, by the following marks: if the pulſe ſtill maintains moderation in its frequency, and has not much abated of its fullneſs and force; if artificial vomiting and purging diminiſh the morbid vomiting—in a word, if the debilitating plan of cure ſtill ſucceeds. But, it will then at laſt be underſtood that the diſeaſe is converted into the

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oppoſite, when theſe ſymptoms every day increaſe; when the pulſe becomes weaker and weaker; when griping and liquid ſtools are ſuperadded to the ſymptoms that diſturb the ſtomach, and when the antiſthenic or debilitating plan of cure is now of evident detriment.

CLXVII. While theſe affections of the ſtomach and inteſtines, ſtill ſtop ſhort of indirect debility, exceſſive excitement will produce great diſturbance in the ſtomach; this organ having on account of its great ſenſibility more proneneſs to indirect debility than any other (LIV): the moſt powerful ſtimuli too, and thoſe that are ſignally efficacious in producing ſthenic diatheſis (*b*) are firſt applied

(*f*) As high ſeaſoned animal food, wine, ſpirituous drink, cordials, and the whole train of high diffuſible ſtimuli. Some of theſe, as meat and wine, have no effect upon the external ſurface, or any other part: others, as ſome of the condiments, ſuch as muſtard and ſtrong ſpirits, and above all the diffuſible ſtimulants, as æther, camphor, and opium in a liquid form, do act upon the external ſurface, and by their application to it ſupport their own internal uſe. Thus, to prevent or remove the gout, anaſarca, ſprains, and ſo forth, the application of any of thoſe

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plied to it, and exert a greater force upon the excitability in that than any other part. Theſe ſtimuli are the ſeveral preparations of animal food, the ſeveral kinds of ſtrong liquor, the ſeveral condiments with which they are ſeaſoned, the various diffuſible ſtimuli, as the different preparations of opium, volatile alkali, camphor, muſk, and æther. Theſe all act upon the ſtomach with more force than upon any other part; than upon the inteſtines below, becauſe they undergo a change from the firſt digeſtion before they paſs into the upper portion of the inteſtinal canal; than upon the lacteal veſſels, becauſe they are not received into them till they are further diluted, and have undergone another change from the digeſtive operation, and when ſo changed, they are next carried to be mixed with the blood; than upon the heart and arteries, upon account of further dilution in thoſe veſſels,

thoſe high diffuſible remedies, juſt now mentioned, will greatly contribute, along with their uſe as taken into the ſtomach, to ſupport the general operation. Theſe, and innumerable others, are ſo many facts that have been ſuggeſted by obſervations and trials made in the proſecution of this doctrine.

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and a conſtant change taking place through the whole courſe of the circulation; than upon the terminations of the arteries, whether exhalant or glandular, and whether theſe excrete from the body a matter already corrupted, or carry back by the lymphatic veſſels an uſeful matter to the blood—and that both for the reaſons that have been given, and particularly becauſe ſome great change is made in the exhalants and glands; than upon the lymphatic veſſels, where a new fluid is conſtantly flowing in upon the old in theſe parts by means of anaſtomoſing branches, and chiefly in the thoracic duct; than upon the other blood-veſſels, upon account of the great change that a repetition of the circulation produces; than upon the muſcular fibres, whether voluntary or involuntary, becauſe the ſtimuli never come in contact with theſe; than upon the brain or medullary ſubſtance, for the ſame reaſon, as well as from the great diſtance of theſe parts from the part that received the firſt contact of the ſtimuli. In one word, as all the exciting powers, whether ſalutary or hurtful or curative, act ſomewhat more powerfully upon certain parts than upon others,

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others, which parts are generally thoſe firſt affected, and with which they come into direct contact; theſe, therefore, in preference to others, are moſt liable to paſs either from ſthenic diatheſis into aſthenic, or from the latter into the former. Whether however the excitement has been increaſed or diminiſhed in a peculiar part; and whether its diminution has been owing to direct or indirect debility, and in either way the aſthenic diatheſis has been produced; all the reſt of the body ſoon follows the kind of change that has taken place, becauſe the excitability is an uniform, undivided, univerſal property of the ſyſtem. Since the agents have been, and are the ſame, that is, either exceſſively or inſufficiently ſtimulant, or ſo to an ultimate exceſs; and ſince the excitability upon which they have acted, and ſtill act, is the ſame, that is, ſince the whole conſideration of the cauſe is the ſame, the effect muſt alſo be the ſame, that is, the ſame ſort of actions, whether in exceſs or defect, muſt be eſtabliſhed over the whole body.

CLXVIII. The inflammation, which accompanies the phlegmaſiæ, or ſthenic diſeaſes, accom-

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accompanied by local inflammation, occupies an external part, as far as its nature has been yet aſcertained. The reaſon is, that heat, which is the moſt powerful noxious agent in thoſe diſeaſes, either alone, or alternating with cold, or ſucceeding to it, has much more power to ſtimulate externally, where it is directly applied, than internally, where the temperature is nearly ſtationary, and therefore raiſes the general diatheſis to the degree of actual inflammation in ſome one part. Hence the throat, the different joints, the face, where the form of inflammation is different, as when the inflammation of eryſipelas appears there; hence the lungs, which are to be conſidered as an external part, becauſe the air has direct acceſs to them, are all more liable to inflammation than other parts. And, beſides the peculiarity in the mode of action of heat, there is in the part, that is to undergo the inflammation, a greater ſenſibility (ſee above LIII. λ.) than in others, or a more accumulated excitability; by means of which it happens, that of the parts that have been mentioned, ſometimes one, ſometimes another

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another is affected, more than the reſt (*g*). To this conſideration of the cauſe it may be added,

(*g*) In the inflammatory ſore-throat the inflammation affects the throat, which is alſo ſometimes the ſeat of an eryſipelatous inflammation. In eryſipelas, ſometimes the face, ſometimes one of the legs, ſometimes the ear, ſometimes the temples, are inflamed. I have frequently been affected with an eryſipelas, that begins with an acute inflammation and pain in one ear, which is thickened to four times its uſual dimenſion; from that it ſpreads over the whole hairy-ſcalp till it reaches the neighbourhood of the ear in the oppoſite ſide, never, however, affecting that ear: this progreſs has been ſometimes from the right to the left, ſometimes from the latter to the former, in proportion as either had been more expoſed than the other to heat, or the alternation of heat with cold, or their ſucceſſion to each other. This diſeaſe is ſthenic, but in a mild degree, and to be removed by coolneſs, cold water, low vegetable fluid diet, and a ſlight purge. It was once greatly aggravated by wine, ſpirituous drink, and the diffuſible ſtimuli. In rheumatiſm, the inflammation attacks a large joint, ſometimes ſhifting from one to another, ſometimes ſeveral at a time, and, in contradiction to the eryſipelatous, is deep ſeated, extending to the interior part of the true ſkin, which is the caſe with every ſuch inflammation, called therefore, phlegmonic; while its ſeat in eryſipelatous is betwixt the ſcarf-ſkin and outer part of the true ſkin upon the corpus mucoſum. To theſe phlegmaſiæ, depending upon the general

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added, that whichever of the parts we have mentioned has been injured, in whatever manner it may have undergone the inflammation peculiar to the phlegmaſiæ, that part, in every ſubſequent attack of phlegmaſia, is in more danger of being inflamed than the reſt. This is the true cauſe of the frequent recurrence of ſome of the phlegmaſiæ, as the inflammatory ſore-throat, and rheumatiſm (*b*).

Peripneu-

general cauſe of the diſeaſe, and eſpecially upon the effect of temperature, may be added that which an inflammation in one of the ears accompanies, though this caſe is ſeldom admitted into the number of the phlegmaſiæ. It is, indeed, ſometime local, ariſing from local injuries, but is as certainly at others, a general diſeaſe, and to all intents and purpoſes a phlegmaſia.

(*b*) Theſe two diſeaſes, in young vigorous perſons, are very liable to be exceedingly troubleſome by the frequency of their occurrence. In the younger part of my life the violence in degree, and frequency of recurrence, of the ſthenic inflammatory ſore throat, was very diſtreſſing, as the leaſt variation of the external temperature, ſupperadded to a full nouriſhing diet, not without the ſtimulus of a chearful glaſs, was ready to renew, not only the inflammation, but the whole phænomena of the diſeaſe. The ſame thing I have often obſerved in the frequent recurrence of rheumatiſm in perſons of the ſame age and habit, perhaps, with ſome difference

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mony is a diſeaſe leſs frequent than any of the reſt of this form, becauſe the ſeat of its inflammation is exempted from many ſtimuli, liable to produce ſthenic diatheſis with its accompanying inflammation.

H. As inflammatory fever, catarrh, the mild ſmall-pox, are unattended by inflammation (unleſs that in the laſt a local inflammation from a local cauſe, quite different from that which makes our preſent ſubject, takes place), and as the inflammation in peripneumony, violent eryſipelas, and ſimilar violent affections, is found the higheſt in degree; I conclude, that the degree of inflammation, when it is a ſympton of general ſthenic diſeaſes, is

difference of temperament. But it is to be obſerved, that, in proportion to the advance of life, and diminution of vigour, both theſe diſeaſes become much leſs frequent, and much leſs violent. Nor is any thing more common than their giving way at this time to a very oppoſite diſeaſe, the gout, which depends upon a ſuperaddition of direct debility to the indirect, that laid the foundation of it. I am pretty certain my inflammatory ſore throat, or eryſipelas, never happened ſpontaneouſly, nor without an addition of ſtimulant power, to thoſe that produce that diſeaſe, in conſequence of carrying to ſome exceſs the plan of cure ſuited to the removal or prevention of the gout.

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proportioned to the degree of the ſthenic diatheſis (*i*).

CLXIX. The inflammation, in this caſe, is only a ſtate of the inflamed part analogous to that of the reſt of the body. And as the inflammation is produced by a greater degree of excitement in the inflamed, than in any other equal, part; ſo, before the diſeaſe comes on, of which the inflammation is only a part or ſymptom, the excitement of that part is underſtood to be proportionally greater than in any other part (*k*).

CLXX.

(*i*) It ſhall by and by be ſhowed, that this ſort of inflammation is only a part of the general diatheſis, ſomewhat higher in degree than in any other part, but far ſhort of the degree conſtituted by the whole general affection.

(*k*) See above par. L. and LI. Suppoſe the excitement in every part of the ſyſtem to be 45 at ſome point in the period of the prediſpoſition, and 54 in the part to be inflamed; after the coming on of the diſeaſe the ſame proportion will hold: when the excitement has now mounted up to 60, the excitement of the part will be underſtood to have gone to 69; keeping up ſtill the ſame proportion. But theſe 9 degrees of greater excitement in a part come far ſhort of the ſum total of excitement in all the parts affected with the general ſthenic diatheſis; that

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CLXX. This inflammation, which for the ſake of diſtinction may be called general ſthenic inflammation, ſhould be diſtinguiſhed from another, which is a local affection, ariſing from local noxious powers, or depending upon a fault in the organ, or a ſolution of continuity (*l*).

CLXXI. To this laſt the term of ſthenic local inflammation applies. General inflammation always depends upon ſthenic diatheſis, is a ſymptom or part of it, never precedes it, always ſucceeds to it ſooner or later, ariſes from the ſame noxious powers which produce the other ſymptoms, and is reduced by the ſame remedies. In contradiſtinction to which, the local affection ariſes from ſome local in-

that you may ſuppoſe 3000: and then the concluſion will be, that the general ſthenic diatheſis conſiſts in a ſum total of morbid affection, as 3000; while the inflammation of the part is only an affection of 3 degrees of excitement.

(*l*) Solution of continuity in all its forms, whether as being the effect of puncturing, cutting, bruiſing, compreſſion, eroſion from acrid matter, or from heat, or cold, is always followed by an inflammation, which, when it goes on briſkly, and needs to have its violence reſtrained, ſhould be called as is expreſſed in the next paragraph.

jury,

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jury, producing a ſolution of continuity, or deranging the texture of the part; and if the injured part is not very ſenſible, the affection extends no further. But when the injured part is endued with a high degree of ſenſibility—ſuppoſe the ſtomach, the inteſtines, among the internal parts; among the external, the tender ſubſtance under the nails—in theſe caſes, the effect of the inflammation is propagated over the whole ſyſtem, and, in conſequence of an affection of all the veſſels, excites a tumult every where. The ſame local ſthenic inflammation, whether it be fixed in the part, or from its propagation gives more general diſturbance, yields to no remedies, but thoſe that act upon the affected part firſt, and heal the ſolution of continuity. Let it ſuffice to have ſaid ſo much at preſent upon theſe inflammations, for the ſake of eſtabliſhing neceſſary diſtinctions. More is afterwards to be ſaid upon the local, in its proper place. There are two inflammations ſtill remaining, one univerſal and one local, to be more fully explained in that part of our work where the proper order requires it.

CLXXII. Inflammation, alſo, as often as it

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it affects a vital part, produces ſymptoms of diſturbance. Whether ever the general ſthenic inflammation affects the brain and its membranes, is hitherto not aſcertained (*m*). It is more probable, that the commotion in the head, and other violent ſymptoms in phrenitis, do not depend upon inflammation, as the following phænomena ſeem to ſhow: 1. the eaſe by which the cure is effected, all the ſymptoms readily yielding to bleeding, purging, and other aſthenic remedies; and, it not being very credible, that the effect of actual inflammation in a part ſo delicate, and ſo neceſſary to life, could be ſo eaſily effaced: 2. There is no certain proof, after recovery, of the exiſtence of inflammation during the diſeaſe: 3. Analogy makes for the ſame concluſion; for, as has been ſaid above, general inflammation does not ariſe internally in any general ſthenic diſeaſes; on the contrary, as often as it occurs, it is always in

(*m*) Phrenitis has been thought, and commonly even defined, an inflammation of the brain; an opinion that, however univerſal, ſeems to be liable to much doubt: nay, there are many reaſons for adopting an oppoſite one, as will appear from the reaſoning in this paragraph of the text.

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an external part (*n*). Nay all the ſymptoms are ſuch as ariſe from the general ſthenic hurtful powers, and, alſo, yield to the general antiſthenic remedies, and in proportion to their degree.

CLXXIII. The ſame that we have aſſigned as the cauſe of phrenitic affection alſo is the cauſe of head-ach, redneſs of the eye, as well as of delirium in phrenitis.

CLXXIV. There is, however, no reaſon to doubt, but that inflammation is the cauſe of that diſturbance, which happens to the lungs in peripneumony. To the part where the pain is felt externally, whatever part of the thorax it is, an actual inflammation is oppoſed internally. And, as the inflammation is proportional to the degree of general ſthenic diatheſis, and never happens but in a high degree of that diatheſis; ſo the pain is proportional to the degree of inflammation

(*n*) It was long an opinion, that the inflammation in rheumatiſm might be transferred to an internal part, as the ſtomach; but that, alſo, is now laid aſide, and all the caſes where there could be the leaſt appearance of any ſuch transference, have been found to be caſes of the gout, or ſome analagous diſeaſe of debility.

(*o*); and

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(*o*); and the ſtate of the pulſe muſt be eſtimated by paying a due regard to its cauſe. In the caſe of an high diatheſis, and high degree of inflammation, its effect, the pain, ſeated in ſome part of the thorax, ſometimes

(*o*) The inflammation was ſuppoſed a chief and primary circumſtance, and its cauſe and ſeat, the cauſe and ſeat of the whole diſeaſe; while the general ſthenic diatheſis, and all the ſymptoms depending on it, was ſuppoſed the offspring of the inflammation. But the truth is, in every reſpect, the reverſe of this account. The general ſthenic diatheſis is the effect of the general exciting hurtful powers. As the effect of theſe, in a leſs degree, it exiſts during the prediſpoſition, and before the arrival of the diſeaſe; and, after the diſeaſe is come on, it ſubſiſts, as certainly, as ſuch, for one, two, or three days, as afterwards, when the ſign of the inflammation, the pain, makes its appearance. It is only an increaſe of it, that induces the latter; and it is not to be cured by any contrivance of throwing any thing into the inflamed part, there being no ſuch thing to be found in nature, but by the ſeveral means of removing the common cauſe, that is, evacuant and other debilitating remedies. Theſe, while, at the ſame time, they remove the other ſymptoms, by alſo removing the diſeaſe, prove that the common cauſe of the whole is the general diatheſis. The inflammation, therefore, inſtead of being the cauſe of the general diſorder, is a conſequence, like every other ſymptom.

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about the ſternum, ſometimes nigh the nipples, ſometimes further back on either ſide, ſometimes in the back between or above the ſhoulders, is acute and pungent, and the pulſe very hard and ſtrong. When the diatheſis, and the part of it we call inflammation, are the pain is leſs acute, more dull, and eaſier to be borne; the pulſe is not ſoft and yielding, according to the common notion, but ſtill hard and ſtrong, though leſs ſo than in the other caſe. Afterwards, in the progreſs of the diſeaſe, the pain abates, becomes dull, the reſpiration, which had been much diſturbed by it, becomes more eaſy and free. The pulſe which before was only leſs hard, now becomes truly and poſitively ſoft, and that in proportion to the degree of indirect debility, occaſioned by a neglect of the proper plan of cure; or in proportion to the production of direct debility, from the antiſthenic or debilitating plan of cure having been puſhed too far. But the hardneſs of the pulſe, and violence of pain, are never to be imputed to the inflammation being ſeated in the membrane; nor is the ſoftneſs of the former, and dulneſs of the latter, to be attributed to its occupying

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occupying the ſoft parenchymatous ſubſtance (*p*), it being impoſſible that an inflammation, if it occupied either of thoſe parts, ſhould not reach the contiguous points of the veſſels in the other. The cauſe, therefore, of thoſe ſymptoms that has here been aſſigned, muſt be admitted.

CLXXV. The puſtules, which accompany certain ſthenic diſeaſes, ariſe from a contagion, taken into the body, diffuſed over the whole, and, in paſſing out, detained along with the perſpirable fluid, under the ſcarf-ſkin. The cauſe of the diſtention, and, therefore, of the great number of puſtules, is the ſthenic diatheſis, taking place in a high degree over the whole body, but in a ſtill higher in the veſſels of the ſkin, for the reaſons formerly aſſigned, (ſee above, par. CXIII. and CXIV). In which operation the muſcular fibres of the veſſels, becauſe they are as much increaſed in denſity, in ſo far as they are conſidered as ſimple ſolids, as they receive an increaſe of

(*p*) Such, however, and many other diſtinctions, equally falſe, frivolous, and miſleading in the practice, have been at all times univerſally received by ſyſtematic, and lately by noſological writers.

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tone, in ſo far as they are conſidered as living (ſee chap. V.), are on that account ſo ſhortened, as not ſufficiently to tranſmit the imperceptible vapour of the perſpirable fluid. All the ſthenic hurtful powers have a tendency to produce this effect, but heat, in a degree within its ſtimulant range, and ſhort of indirect debility, more than any other. The ſame is the cauſe of coſtiveneſs.

Θ. Sthenic diſeaſes are often followed by debility, ſometimes direct, at other times indirect, as is exemplified in the change of peripneumony into hydrothorax, the explanation of which is evident from what has already been ſaid.

CHAP.

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CHAP. V.

The aſthenic diatheſis—Its characters.

CLXXVI. BEFORE the diſturbance, which only ſupervenes in a violent degree of morbid ſtate, all the ſenſes are dull; the motions, both voluntary and involuntary, are ſlow; the acuteneſs of genius is impaired; the ſenſibility and paſſions become languid. The following functions are all in a ſtate of languor, as is diſcoverable from the annexed marks: The languor of the heart and arteries is diſcernible in the pulſe; as is alſo that of the extreme veſſels on the ſurface, from the paleneſs, the dryneſs of the ſkin, the ſhrinking of tumours, the drying up of ulcers (*a*), and the manifeſt abſence of ſthenic diatheſis, to produce any ſymptoms like theſe. That the

(*a*) Theſe ſymptoms have lately been conſtrued into ſo many marks amounting to a proof of the exiſtence of ſpaſm upon the extreme veſſels; but we ſhall, by and by, find a much better explanation of them.

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muſcles are in a ſtate of torpor is demonſtrable by their weakened action; and that the internal ſecretions are deficient, is equally certain from the penury of ſemen and milk, and the redundance of fluids in a ſtate of degeneracy. The languor of the digeſtive organs is manifeſted by want of appetite, loathing of food, ſometimes thirſt, ſickneſs, vomiting, weakneſs of the ſyſtem, and evident penury of blood.

CLXXVII. In the ſame diatheſis, whether remaining within the latitude of prediſpoſition, or raiſed to the meaſure of actual diſeaſe, the intellectual faculties and the paſſions are impaired. In this way are the functions impaired.

CHAP.

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CHAP. VI.

The aſthenic diatheſis illuſtrated by an explanation of its ſymptoms—Shivering and ſenſe of cold from checked perſpiration—Weak circulation from defect of ſtimuli—Bad ſign when the circulation becomes ſuddenly ſtrong—Pale and dry ſkin—Head-ach—Delirium—Thirſt and heat whence—Appetite—Affection of the ſtomach—Cramps—No internal inflammation—Symptoms attending gout—Nature of the aſthenic pulmonary affection—Head-ach and delirium, not from inflammation—Nature of aſthenic inflammation—Of putrid ſore-throat—Diffuſible ſtimuli cure gouty inflammation—Confluent ſmall-pox—Puſtules, and other eruptions—Curious eruption in ſome caſes of ſmall-pox—Heat whence—and coldneſs in one ſtage of aſthenic diſeaſe—How in violent ſthenic diſeaſes ſome functions are impaired, but not from debility—and in aſthenic diſeaſes augmented in appearance—Of ſpaſm and convulſion—Action of opium—Of diſcharges

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diſcharges of blood—Sthenic and aſthenic affections of the lungs compared—Similarity of ſymptoms—Cured by oppoſite means.

CLXXVIII. SHIVERING is not unuſual at the commencement of aſthenic diſeaſes of any conſiderable ſeverity; it depends upon the perſpiration being greatly checked. The cauſe of the great check is weakneſs of the whole ſyſtem, but particularly of the heart and arteries, in conſequence of which they propel the fluids every where with difficulty, and in the extreme veſſels with ſtill more difficulty, or ſcarce at all. Hence the perſpiration ceaſes. The ſame explanation is to be given of the ſenſe of cold, when it accompanies the ſhivering.

CLXXIX. In aſthenic affections the pulſe is weak, ſoft, ſmall, and very quick. The ſoftneſs (when it can be perceived for the ſmallneſs), as well as the ſmallneſs, is occaſioned by an under-proportion of blood, ariſing, during the period of prediſpoſition, from a ſcantineſs of animal food, and an exceſs in the uſe of vegetables; or from a deficiency

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ficiency of aliment upon the whole, whether from one or other of theſe ſources. The cauſe of the weakneſs and very great quickneſs of the pulſe is the ſame deficiency of nouriſhment, as well as of all the ſtimuli, as ſtrong liquors, mental or corporeal exerciſe, and an under-proportion of blood.

CLXXX. Since the excitability can only be gradually worn down (ſee above, par. XXVI. XLIII.), and the ſtrength, thereby, repaired; if, at any time, the pulſe becomes full and hard too ſoon, and without a proportional relief of the ſymptoms, it is a bad ſign, and happens becauſe the ſtimulant plan of cure has been puſhed beyond the proper rule (ſee above, par. XLIX.); this is a caſe of indirect debility ſuperadded to the direct (ſee above, par. CLVI.).

CLXXXI. The cauſe of the paleneſs and dryneſs of the ſkin is the ſame as that of a checked perſpiration; viz. the weakneſs of the heart and arteries. Hence the blood is not ſufficiently propelled to the ſurface of the body.

CLXXXII. Head-ach (which is a moſt frequent

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frequent ſymptom in aſthenic affections) and pains in the joints (which are more rare) are occaſioned by a ſcantineſs of blood: for ſuch is the effect of the blood in diſtending the veſſels, that a moderate diſtention, ſuch as takes place in health, excites an agreeable ſenſation; and every thing, either above or below that ſtandard, occaſions an ungrateful one, and, therefore, when it riſes to a certain degree, pain. But in this caſe, we can much leſs ſuſpect inflammation to be the cauſe of the pain than in ſthenic diſeaſes; becauſe, not only the pain here, but even delirium, yields ſo eaſily to the ſtimulant method of cure; which would not readily happen, if ſo delicate and ſenſible an organ, and one ſo neceſſary to life, laboured under an affection ſo likely to deſtroy the texture of the affected part.

CLXXXIII. Neither, in general, is delirium to be imputed to inflammation. It is, on the contrary, to be attributed to a ſcantineſs of blood, and a deficiency of other ſtimuli. Nor can this be doubted; ſince ſtimulant remedies, which have no effect in filling

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ing the veſſels, ſucceſsfully and quickly cure every delirium depending on debility (*b*).

And, when, in conſequence of the removal of the diſeaſe, and of the re-production and eſtabliſhment of the healthy ſtate, enough of nouriſhment is taken in and digeſted, then it is that, at laſt, the mental functions are completely and ſolidly re-eſtabliſhed.

CLXXXIV. Thirſt and heat, which are not leſs remarkable in aſthenic, than ſthenic diſeaſes, ariſe from the aſthenic diatheſis in the throat, and on the ſurface of the body. In the latter caſe, the perſpiration; in the former, the excretion of the ſaliva, the exha-

(*b*) This is an obſervation as new, and of as much importance as any in this whole work. Phyſicians, hitherto, had no diſtinct notion of a variety of inflammations; and had ſcarce any idea of any inflammation, but ſuch a one as was to be treated with bleeding and evacuation; nay, often, when they had no reaſon to ſuſpect inflammation at all, the mere circumſtance of pain was, in their eſtimation of it, ſufficient to warrant a profuſion of bleeding without end. But, the truth is, that pain may not only ariſe from an inflammation, which they had no idea of, and which was to be cured by ſtimulants, but it ariſes from ſpaſms, convulſions, and even from emptineſs.

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lable fluid, and the mucus, are checked by the atony and relaxation of the extreme veſſels. In conſequence of the former, the throat, not being ſufficiently lubricated with a due quantity of its reſpective fluids, is ſcorched with thirſt. The effect of the latter is, that, the perſpirable fluid being detained under the cuticle, the heat, which in a free perſpiration uſually goes off into the air, and remains nearly of the ſame degree, is accumulated and increaſes. But the increaſe of heat does not depend on the ſtate of excitement, or, as it is commonly called, on the principle of life, ſince it happens both in the ſthenic diatheſis, and, likewiſe, in indirect, as well as direct, debility. But the weakneſs of the veſſels on the ſurface of the body (under which the throat, and whatever part is acceſſible to air, are comprehended) is a part of the debility of the heart and arteries; the latter a part of that of the whole ſyſtem.

CLXXXV. This aſthenic thirſt, which is a much more frequent and more violent ſymptom than the ſthenic, is preceded by loſs of appetite; the loſs of appetite is ſucceeded by loathing of food, by ſickneſs, vomiting,

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miting, often by an acute pain of the ſtomach, and other troubleſome ſymptoms; to the explanation of which we next proceed.

CLXXXVI. Want of appetite, and loathing of food (*c*), depend upon debility of the whole body; as is proved by the powers that produce them, always acting by debilitating;

(*c*) Theſe ſymptoms of want of appetite, loathing of food, thirſt, ſickneſs at ſtomach, vomiting, and acute pain of the ſtomach, as well as thoſe that follow to CXCV. and from that to CXCVIII. form a chain of ſymptoms depending upon increaſing debility, which, inſtead of being different in kind, are all connected by an uniform operation of nature. And they furniſh an inſtructive inſtance of the erroneous mode of judging of the nature of ſymptoms, and morbid affections, which has been ſo prevalent in all ſyſtems of phyſic, that we are yet acquainted with. However different in appearance, they are not only ſimilar, but all unite in forming one and the ſame kind of diſeaſe, one and the ſame morbid affection: which is proved by their ariſing all from one and the ſame ſet of hurtful powers, to wit, debilitating; and by their being cured by one and the ſame ſet of remedies, to wit, ſtimulant. The former powers may vary in degree, but they are all debilitating; and the latter may alſo act with different degrees of force, but they are all ſtimulant. And the ſtate of the ſyſtem, from which the former conſtitute a deviation, as well as that, to which the latter produce a return, is health, which is always the ſame.

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and by the remedies, which both prevent and cure them, always acting by a ſtimulant and ſtrengthening operation. The cauſe of appetite is a ſtrong and ſound contraction of the fibres of the ſtomach, by which digeſtion is ſupported (*d*), and the excretion of a fluid,

(*d*) The fibres of the ſtomach are muſcular, and partly longitudinal, partly oblique, or approaching to circular. When the food is taken in, the former are contracted and ſhortened, by which they raiſe the under part of the ſtomach, which is unfixt, upwards. Theſe gradually relax as the food, after its firſt digeſtion in this organ, and its converſion into a more fluid form, in the ſame gradual manner, paſſes out of the pylorus, or under orifice of the ſtomach. This operation takes off the diſtending weight in the direction from above downward; and, as the food in proportion to its converſion from a more ſolid to a more fluid form, is more and more collected into the under part of the cavity of the ſtomach, this gives a preſſure in the lateral way, and, therefore, throws the other fibres into contraction, by which the ſides of the ſtomach are ſqueezed together, and, thereby, perform the office of throwing out, by the pylorus, the remaining part of the alimentary matter. Beſides theſe ſucceſſive actions, the muſcular ſubſtance of the ſtomach is ſo conſtructed as to be provided with fibres, the motion of which, when the ſtomach is full, is upward and downward; when empty, downward only. All theſe motions give the alimentary matter the mechanical agitation neceſſary to promote its mixture.

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as the gaſtric liquor, and the ſaliva (*e*): and to both effects a certain emptineſs of the ſtomach is neceſſary. But none of theſe circumſtances can take place in a ſtate of debility. The fibres do not contract with force; the extreme veſſels do not pour out their fluids; the food, before taken in, is not diſſolved or digeſted, and in that ſtate thrown out of the ſtomach; but continues in a great meaſure unchanged and undiſſolved. Hence there is no appetite for food, and in a higher degree of this affection loathing takes place.

CLXXXVII. In the ſame manner thirſt has been explained (ſee par. CLXXXIV.); and in the ſame manner is the ſickneſs, which

(*e*) The gaſtric fluid, poured into the cavity of the ſtomach, as well as the ſaliva that follows it from the palate, and the watery or other drink taken in by the mouth, contribute to change the food more and more into a fluid conſiſtence, which is a change only of its form: but, by certain means, a change alſo of its nature, called in chemiſtry proper mixture, takes place. This change is chiefly effected by the gaſtric fluid, to which, perhaps, a certain relation that the other fluids bear to the alimentary matter in this living organ, contributes. Another means of promoting the ſolution that goes on in this proceſs is the heat of the ſtomach.

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is a higher degree of affection from the ſame cauſe, to be explained; for when there is ſtrength and vigour, ſenſation is moſt agreeable in every part of the ſyſtem, as well as in the ſtomach and neighbouring parts.

CLXXXVIII. With reſpect to vomiting; it is the moſt conſiderable of all theſe affections: for to ſuch a height has the atony and laxity of the fibres in the ſtomach gone, when it comes on; to ſuch a degree has the collection of crude matters proceeded, and the diſtention of the ſtomach from theſe laſt, and from extricated air, that the fibres are oppreſſed, and cannot perform their motion from the upper to the lower part, which is commonly called the periſtaltic motion. And, as in every caſe, both of health and diſeaſe, the tendency of that motion is always in an oppoſite direction from the ſtimulus; downward when the ſtimulus proceeds from the mouth, and upwards when it comes from the ſtomach; hence the crudities and air acting as a local ſtimulus, direct all the motion, that they excite, towards the upper parts of the canal. This inverted motion, being contrary to nature, can never be agreeable; and hence,

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hence, before the arrival of the vomiting, ſickneſs ariſes; which when it continues for any time, muſt be violent, becauſe the local ſtimulus rouſes the muſcular fibres into violent and irregular motions.

CLXXXIX. The cauſe of pain in the ſtomach and inteſtines, and other parts, both internal and external, under aſthenic diatheſis, is ſpaſm. Spaſm in any internal cavity, that is, in the organs of involuntary motion, ariſes from a relaxation and atony of the fibres, (in conſequence of the debility common to the ſeat of the ſpaſm with the whole body) accompanied by a diſtending matter: this diſtending matter in the ſtomach is the ſordes or foul crudities; in the inteſtines, hardened excrement; in both, air let looſe. The effect here does not ſo much depend upon the diſtention as upon the lax ſtate of the diſtended fibres; for the fibres, when ſtrong and vigorous, eaſily repel the diſtending power, which overpowers them in this ſtate: but the relaxed fibres, of which we are ſpeaking, yield more and more, in proportion to the urgent force exerted on them, till loſing all power of alternate motion, they continue immova-

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bly contracted. All which ariſes from that property in muſcular fibres, by which, when they are ſtretched, they do not, like common elaſtic matter, contract only after the diſtending power is removed, but even while it remains. In this ſtate the ſenſible fibres undergo a certain violence; and hence the pain *(f)*. But, that more is to be attributed to their own laxity, than the diſtending matter, is proved by ſtimulants reſtoring the tone and denſity, which are exactly in proportion to each other, as depending upon the ſame cauſe. After the application of ſtimulants, they contract; and, re-acting like healthy fibres, without any other aſſiſtance, as has lately been aſcertained, they reſtore the periſtaltic motion, and drive downward before them the matter, ſtill remaining, and ſtill continuing to diſtend them *(g)*. In this way wine, aromatics,

(f) Pain ariſes here from diminiſhed action. Senſation, either agreeable or diſagreeable, always follows any conſiderable increaſe or diminution of the irritative motions. EDITOR.

(*g*) The prevailing notion with reſpect to this kind of affection has been, and ſtill is, that its cauſe is the matter

aromatics, and volatile alkali, and, above all the reſt, the various forms of opium, diſlodge all ſuch hurtful matter without either vomiting or purging, and without any difficulty, in a very ſhort ſpace of time.

CXC. The pain, which is ſo often felt in the external parts of the body, alſo depends upon ſpaſm, but without any diſtending matter: for an effect of volition on the voluntary muſcles produces the ſame effect; ſo that the ſpaſm is excited in the ſame manner as by diſtention, and often with the moſt exquiſite pain. Now as the effect is the ſame, that is, ſpaſm ariſing from debility, and as it may be removed by reſtoring the ſtrength; the cauſe alſo muſt be the ſame, and be reducible to debility, together with ſomething that acts like diſtention, and poſſeſſes a power

ter here ſpoken of, which is only an effect of the cauſe, and that its cure, when the affection is in the ſtomach, is vomiting to carry off the ſuppoſed cauſe. But its true cauſe is the laxity of the fibres, and their atony from the general debility, yielding to the diſtending force of the matter, and thereby loſing their tone and denſity more and more; while vomiting therefore increaſes, ſtimulating removes the diſeaſe.

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equal to it. By this way of reaſoning (*b*) we may often ſafely aſcend from the contemplation of known effect to the unknown cauſe. The pain we ſpeak of at preſent, is that produced by ſpaſm of the muſcles.

CXCI. There is another pain, more diffuſed, and equally troubleſome, which is not ſupported by diſtention, but by another local ſtimulus: this pain equally ariſes from debility, has equal tendency to increaſe the debility, and, by its debilitating operation, after having induced other ſymptoms of debility, ſoon occaſions death. This pain ariſes from a

(*b*) A way of reaſoning never made uſe of in medicine before, but which runs through, and influences moſt of the propoſitions in this work. It is further to be obſerved, that, upon no occaſion, can we ever arrive at an adequate knowledge of abſtract cauſes; that the eagerneſs of mankind to ruſh into wild and fanciful explanations of them, without any regard to real phænomena of nature, has been the cauſe of all the falſe phænomena that ever appeared in the world, and that the only ſure and faithful guide to the ſtudy of cauſes is a cautious and painful inveſtigation of the effects and phænomena of nature that proceed from them. See more upon this important ſubject, and, indeed, a complete diſcuſſion of it, in my book, entitled, "Obſervations on the old Syſtems of Phyſic."

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ſtrong acid, which is ſometimes predominant in the alimentary canal, when under the influence of great debility, of which cholera is the chief inſtance; but all the affections of the alimentary canal beſides, that are accompanied with vomiting and a looſe belly, are more or leſs examples of it.

CXCII. This acid is not the primary cauſe of the diſeaſe; it is only a ſymptom ariſing, after the complete eſtabliſhment of the diſeaſe, from the ſame ſource as the other ſymptoms, viz. debility; and it may be removed by the ſame remedies. This acid increaſes the debility both of the firſt paſſages and the reſt of the body: but while it exerts that operation over the whole body, its chief influence is in the part where it exiſts, and where it is moſt urgent to leſſen the violence of the diſeaſe.

CXCIII. But, though it be itſelf, like ſpaſm, the offspring of debility, and tends to create further debility; ſtill there is not, either for the ſake of changing, or throwing it out of the body, occaſion for any other indication of cure: For, as it has its riſe from

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a general cauſe, ſo it all along depends upon that; and whatever has the effect of overcoming the other ſymptoms, has alſo that of overcoming this. For this, as in the caſe of ſpaſm, ſtimulants,—not emetics, not purgatives, or any other debilitating powers,—are required.

CXCIV. As this acid produces pain in the internal parts, or in the organs of involuntary motion; ſo in the external parts, or organs of voluntary motion, pain is occaſioned by ſomething that produces the ſame effect as the acid, and depends upon the will, and acts in conjunction with the convulſive ſtate; and, as in the ſpaſm of the voluntary muſcles, there is no matter that correſponds with the diſtending matter ſometimes lodged in the ſtomach, ſo in this there is none to correſpond with that which produces the pain. Nay, as the ſpaſmodic caſe is repreſented by any cramp of the muſcles, ſo is the convulſive by any convulſion, but above all, by epilepſy. Finally, as in the former, the ſame reaſoning from known effect to unknown cauſe proves the ſameneſs of the external and

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and internal caſe, it equally proves their ſameneſs in the latter (*i*).

CXCV. The ſimple courſe of the morbid affection, from its ſlighteſt to its moſt violent degree (to take a review of the ſubject from the place where we ſet out), is this: it begins with loſs of appetite, and is brought on

(*i*) All this reaſoning with reſpect to ſpaſm and convulſion, ſhowing them to be the ſame, and only a part in the whole, a link in the chain of the other aſthenic affections, which have been mentioned, as well as the facts and arguments next to be brought, which will ſerve to prove all that follow to be alſo the ſame, is, of itſelf, of the higheſt importance to mankind. In a particular manner, the whole tribe of diſeaſes of the alimentary canal, and almoſt all thoſe of children, all, indeed, but the contagious eruptive ones, are both explained, and their principle of cure aſcertained, with geometrical exactneſs. Here, then, at once is a diſcovery, upon ſcientific principles, of the true nature, and certain cure, of more than one-half of the diſeaſes of the human race; the method of cure ariſing from this doctrine having never failed in any of them, and never ſucceeded upon a contrary plan, the debilitating and evacuant, ſo univerſally recommended by the authority of the ſchools. The ſpaſms and convulſions of the external parts, unleſs when immoderate in degree, are equally certainly removed by the new method, and even epilepſy and tetanus yield to it.

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by want of food and of other ſtimuli, or by an over proportion of ſtimuli, and proceeds through all the intermediate degrees to the ſpaſmodic or convulſive pain. For the reaſons lately aſſigned, there is firſt no appetite for food, and if the patient perſeveres in the debilitating proceſs of cure, and food is not adminiſtered, (ſuch, ſuppoſe, as can be taken in the form of ſoup), a loathing of it follows. By-and-by, if nothing is uſed to produce ſtimulant effect, thirſt will come on; there will be the keeneſt deſire for that moſt debilitating power, cold water, which will be preferred to the greateſt dainties, and will be greedily ſwallowed *(k)*. To this, ſickneſs immediately ſucceeds, and very ſoon, vomiting, unleſs prevented by a diffuſible ſtimulus, ſuch as a glaſs of pure ſpirit, or if one fails, a ſecond, and perhaps, in ſome caſes, a third. When the affection riſes a little higher, during the vomiting a violent pain is felt in the ſtomach, giving a ſenſation as if

(*k*) When this aſthenic thirſt comes on, it is the higheſt luxury in nature to be allowed a free indulgence in the uſe of cold water, which is always hurtful in proportion to the degree of its coldneſs.

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there were a bar of iron in it, forcibly ſtretching and tearing it acroſs (*l*). When the affection becomes ſtill more ſevere, every ſpecies of torture is undergone; an head-ach comes on with a ſenſe of ſtrokes like thoſe given by an hammer. Theſe violent ſymp-

(*l*) A lady, after nurſing her twelfth child for ſeven months, was found by her huſband, a phyſician well acquainted with the new doctrine, very low ſpirited one evening. She was of a delicate, thin, exhauſted habit, and had been ſubject often before, towards the end of her periods of nurſing, to loſs of appetite, colic, dejection of ſpirit, and as often cured by removing the child from her breaſt, and putting her upon a rich ſtimulant regimen. Her friend and phyſician perceiving the cauſe of her dejection, ordered two of their daughters, who happened to be grown up, to ſit up and rock the child in the cradle all night, and alſo watch their mother to adminiſter to her the things he had ordered. They themſelves went to bed. The reader ſhould have been informed, that ſuch was this lady's lowneſs of ſpirits, that tears burſt from her eyes upon hearing the ſudden order for the weaning of the infant. The huſband fell aſleep; but in an hour's time was wakened by the noiſe of a moſt violent vomiting ſhe had fallen into. She had a pain in her ſtomach at the ſame time, from her account of which the deſcription above was taken. All this had been occaſioned by her applying the child's mouth to her nipple.

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toms are communicated to the alimentary canal, for the moſt part not immediately, but in conſequence of the diſeaſe remaining, with the intervention of intervals of deceitful reſpite. The belly is often affected with very painful gripes, and is exceedingly looſe; but, what will not be wondered at in an inverted ſtate of the periſtaltic motion, it is oftener conſtipated, and, from time to time, undergoes all the viciſſitudes of alternate vomiting and purging. Among the troubleſome ſymptoms, that have been mentioned, are comprehended dyſpepſia, the gout, diarrhœa, dyſentery, cholera (*m*), the colic (*n*), the iliac paſſion,

(*m*) Or that diſeaſe, the urgent ſymptoms of which are alternate vomiting and purging, the effect of which, while their cauſe is a general weakneſs over all, but prevalent in the firſt paſſages, is to increaſe the weakneſs, from which they proceed to ſuch a degree, as to hurry on the patient's death, with every ſymptom of expiring debility, in the ſhort ſpace of ſixteen hours. This happens in the warm countries, as the ſouthern parts of Europe, and eſpecially in the torrid zone, whether in Aſia, Africa, or America.

(*n*) The colic has been commonly treated by purging and bleeding, and low diet; but in no inſtance has that treatment of it been ſucceſsful. Opiates were particularly

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paſſion (*o*), the green purging of infants, the worms, that waſting of the body called tabes,

larly forbidden upon the ſuppoſition of their conſtipating the belly; but the truth is, that the colic, as well as diarrhœa (which has been ſuppoſed a diſeaſe of an oppoſite nature, from the ſeeming contrariety of looſeneſs of the belly and coſtiveneſs to each other), are the ſame kind of affection, only differing in degree. And the colic is to be removed by no other means than thoſe that remove the ſimple looſeneſs; that is by durable and diffuſible ſtimulants.

(*o*) Which is that higher degree of colic where vomiting comes on, and the periſtaltic motion is ſo inverted as to occaſion the rejection of ſtercoraceous matter by the mouth. Sometimes in the progreſs of the ſame diſeaſe, eſpecially when treated only by evacuation and bleeding, a portion of gut is inſinuated into the cavity of the next portion. This is called in the art Volvulus, or Intus Suſceptio. The quick and effectual cure of colic before the ſymptoms of volvulus make their appearance, is a good proof that the latter is induced by the purgative medicines, employed to clear away the obſtructing cauſe, acting with ſuch relaxing effect, and urgent violence, as to turn back the inverted motion in one part, while it continues inverted in all the reſt, and particularly in the portion next to it. The ordinary evacuant plan, therefore, is a cauſe of the violence of the diſeaſe in all its ſtages; and laſtly, of the laſt, which becomes a local and immoveable affection. Nothing could be more abſurd than the reaſoning that has directed the practice

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tabes, or atrophy (*p*), both of them diſeaſes chiefly of children, and their moſt frequent diſeaſes.

CXCVI.

practice of phyſicians. In which, beſides the general rules of bleeding to cure bleeding, vomiting to cure vomiting, and purging to cure purging, and beſides the contradiction of employing purging in colic, which by the laſt rule only applies to diarrhœa; they have taken it into their head, that a good means of removing the obſtructing matter in colic, was to throw in a large quantity of heavy ſubſtance with the intention of forcibly diſplacing it; reaſoning in that way not ſo well as a ſoldier would do in clearing away any foul matter from his fire-lock; for it ſhould have been remembered, that whatever effect ſuch ſubſtances, as quick-ſilver, might have by their weight in puſhing downward any obſtructing matter, they muſt operate with a contrary effect, as often as in the convoluted ſtate of the inteſtinal canal, the courſe of any portion was upward. Neither did it ever ſtrike them, upon any one occaſion, what they ſhould never have left out of view upon every occaſion, that the idea of the action of dead matter upon dead matter, whether mechanical or chemical, that is, perceptibly or imperceptibly mechanical, is never to be transferred, in ſound reaſoning, to the mode of action of the ſame dead matter on living matter; the excitement in no caſe whatever admitting of any ſuch analogy.

(*p*) Theſe two diſeaſes, according to a theory that has at all times prevailed in the ſchools, and has pervaded all medical ſyſtems, are ſuppoſed to originate from an obſtruction

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CXCVI. As the cauſe of the diſeaſe increaſes in violence, and the exciting noxious powers

obſtruction in the meſenteric glands, through which the chyle, or alimentary matter, after undergoing a double preparation, one in the ſtomach, and another in the firſt convolutions of the inteſtines, has to paſs before it arrives at its common receptacle, the thoracic duct, in order to be thrown into the venous maſs of blood; and to remove it, ſtill upon the ſame idea, as if all the cavities of the animal economy, whether great or ſmall, were to be cleanſed like the ſoldier's firelock, no limits were ſet to the uſe of gentle aperients, and particularly the uſe of mineral waters. And they uſed gravely ("riſum tenea-"tis amici!") to tell us, that with the help of a courſe of time, ſuppoſe the arrival of the infant or child, at the ſeventh year of his age, that would carry off the diſeaſe by its detergent operation, provided the obſtruction were not ſo great as to induce death before the lapſe of that period. That all this is ſilly theory devoid of all foundation in truth, is proved by the completion of hundreds of cures in the ſhorteſt ſpaces of time, by means of durable ſtimuli, which act upon their delicate frames with ſuch efficacy as to ſuperſede, unleſs in the moſt violent caſes, all uſe of the diffuſible. This remark applies likewiſe to worms, for the cure of which no bounds were ſet to the uſe of purgatives, upon the idea of clearing away the ſtuff in which theſe vermin neſtled; a practice not ſo judicious as that of ſome fooliſh boys, who place their ſucceſs in bird-catching upon the chance of bring-

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powers prove more urgent; the external parts are drawn into conſent, and now the organs of voluntary motion are affected. Sometimes

ing down the neſts from the top of high trees, by throwing ſticks and ſtones at them; while other boys, both more ſenſible and alert, climb up and ſeize every one of them. The cauſe of worms is the ſame as that of all the other diſeaſes we have ſpoken of, differing in nothing but in what they all differ from each other, mere degree. Debility over all, but prevalent in the alimentary canal, occaſions a weakneſs both in all the other functions, and particularly in that of the periſtaltic motion. This ſtate implies a ſimilar weakneſs in the veſſels that pour their fluids into that cavity; their weakneſs implies an enlargement of their diameters, and that enlargement an increaſe of the quantity of fluids thrown in, without any increaſed impulſe behind. Hence ariſes a colluvies of matter, which the increaſed periſtaltic motion is not able to throw off. The colluvies is increaſed by the uſe of vegetable matter and fruit taken into the ſtomach, and depoſiting their feculent parts on the inteſtines. The indication of cure is not to increaſe either the general, or particular part of the cauſe, by purging, and the uſe of other debilitating powers, but to ſtrengthen the whole living ſyſtem; and eſpecially the inteſtinal canal, by the whole round of ſtimulant remedies diffuſible or durable. To this treatment the tabes and atrophy will yield in a few days, or even hours; the worms in as many weeks. And they are all increaſed by the common plan of cure, as univerſal experience has proved to a demonſtration.

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the legs, ſometimes the arms, and other parts, differently upon different occaſions, are tortured with cramps; ſometimes the thorax all round; ſometimes the ſhoulders, ſometimes the ſides, ſometimes the back, ſometimes the neck, are affected with pain, from which no part of the human body is exempted; the region of the lungs, of the liver, and of the ſtomach, are eſpecially liable to them. The ſmart pains that affect theſe parts, and are ſuppoſed to proceed from internal inflammation, are, in reality, owing to ſpaſmodic or convulſive affection (*q*). That this is their true

(*q*) Endleſs have been the bleedings and other evacuations employed to remove thoſe painful affections, and as diſmal has been the effect of that method of cure. The univerſal rule, ſuggeſted by the principles, and confirmed by the practice of this new doctrine, is to invigorate the whole ſyſtem, and apply any diffuſible ſtimulus, particularly laudanum, to the pained parts. By that practice I know not one cure, of ſome hundreds, that either I or my pupils have performed, that has failed. The gout will ſometimes make its attack in this way. But whatever be the particular force of diſeaſe, with which they may ſeem to have any connection, the only diagnoſis here neceſſary is to be ſure that the true peripneumony is not the morbid ſtate. When that is out

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true origin is proved by the application of ſtimuli, which remove the affections, often

of the queſtion, and whether the painful complaint be denominated baſtard peripneumony or not, the only indication of cure is what has been juſt now mentioned. A young lady, with whom I am nearly and tenderly connected, has been often affected with an acute pain in her right ſide, moſtly fixed and ſolitary, ſometimes accompanied with a certain numbneſs and ſenſeleſſneſs in her extremities, commonly with loſs of appetite, and ſome degree of head-ach. The effectual method of cure is to apply rags dipped in laudanum, volatile alkali, or æther, and renew them as often as they become dry, and to ſupport her internally with durable and diffuſible ſtimuli, proportioned in kind and quantity to the exigence of the caſe. This method of cure of a morbid affection, that upon the contrary debilitating evacuant plan would be readily and quickly converted into an incurable aſthenic diſeaſe, has always proved infallible in removing the attacks, which never after return but when ſhe has enfeebled herſelf by keeping the houſe too much, and neglecting air, exerciſe, and the uſe of the other diffuſible ſtimuli. Friction uſed over all the affected parts, is alſo found uſeful in ſupporting the ſtimulant operation of all the other remedies. There is in the fens of Lincoln, where an eminent phyſician, and follower of this doctrine, practiſes, a diſeaſe called a baſtard peripneumony; in which, though it had always baffled all the efforts of the common evacuant practice, he never loſt a patient, by exerciſing the contrary one.

immediately

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immediately, always in a ſhort time, and reproduce the healthy ſtate. It is proved by the unſucceſsfulneſs of the contrary method of cure, which conſiſts in bleeding, purging and abſtinence. Nay, what even makes more for the ſame concluſion, is, that, while abſtinence almoſt alone is often ſufficient to produce the pains, rich food alſo alone has proved ſufficient to remove them (*r*).

CXCVII. The ſame pains, ſometimes combined with inordinate motion (*ſſ*) ſometimes without it (*t*), are abſolutely free from inflammation. To diſtinguiſh them from the pains that flow from inflammation or a ſimilar origin, the accompanying ſymptoms muſt

(*r*) This I have often experienced in the caſe of the gout. Before dinner, when my ſtomach was empty, I have limped in going abroad to dinner. But after having made that meal heartily, and taken a glaſs or two of wine, I have returned with a perfectly firm ſtep, and free from all feeling of pain and uneaſineſs.

(*ſſ*) As in the convulſive kind ſo lately ſpoke of, where the enormity of motion is ſometimes external, and in the organs of voluntary motion, ſometimes internal, as in cholera and ſo forth.

(*t*) As in the ſpaſmodic pains, head-ach, pains in the legs and ſoles, where there is an inability to perform the due motion.

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be attended to. A ſthenic diatheſis indicates that whatever pains occur are ſthenic; and we may gather from the aſthenic diatheſis that the pains appearing in it participate of its nature and are as certainly aſthenic. This remark is of general application to diſeaſes of daily occurrence, and overturns the common practice. Even head-ach, which is ſo frequent an affection, may ten times be removed by the ſtimulant plan, for once that the contrary anſwers (*u*).

CXCVIII. Symptoms of diſturbance occur

(*u*) The true reaſon for all this, and innumerable errours in the practice, is that the leaders in the profeſſion never underſtood any diatheſis but a ſthenic one, or any indication of cure but an aſthenic, to which they gave the name of antiphlogiſtic, as they did that of phlogiſtic to the diatheſis. By his reformation of the erroneous plan of cure that his contemporaries, the alexipharmics, had introduced, in the ſmall-pox and the few other ſthenic diſeaſes that ever occur, in all the reſt of the general diſeaſes Dr. Sydenham's authority confirmed the errour. He left alſo the meaſles as he had found that diſeaſe, and all other general diſeaſes, which are much more in frequency than 97 out of the 100, or 97 to 3 of the ſthenic. Great men had need to be cautious, as the leaſt inadvertency in them, not to ſay eſſential miſtakes, never fails to lead their followers, who are commonly ſervile

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cur alſo in aſthenic diſeaſes as well as in ſthenic. Such a ſtate of diſturbance (*x*) takes place in the alimentary canal in the caſes of hyſteria, colic, dyſpepſy, and the gout. Thus in the alimentary canal, beſides the pains, mentioned above, a certain ſenſe of burning, anguiſh, contortion and direful torture, exhibit a ſet of appearances, formidable in the higheſt degree, both to the patient and by-ſtanders, and which beget a ſuſpicion of their proceeding from inflammation. But that theſe affections have nothing to do with inflammation, and that they depend upon a ſtate of the part quite the reverſe, has been proved by the ſucceſs of the ſtimulant method of treatment in every inſtance in which it has been tried (*y*). This is confirmed by the

ſervile imitators, and implicit believers, into capital errour. If ever they attempt any thing of themſelves it is commonly to raiſe a crazy ſuperſtructure upon a falſe foundation, it is commonly to refine upon errour ad infinitum.

(*x*) All in the original from "Talem" in the laſt line to "febribus" in the firſt of the next page incluſive is eraſed, as being an anticipation of a ſubject, that is to follow in the CC paragraph.

(*y*) Till this doctrine appeared, it was impoſſible to eraſe from the minds of phyſicians an impreſſion that

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the uſe of wine, opium, and other diffuſible ſtimuli. Afterwards and along with them animal

had been deeply made there, that nothing but the only inflammation, that they were acquainted with, could be the cauſe of ſuch pain and torture, as is deſcribed in the text. I have more than once experienced the whole concourſe, here mentioned, and have always found them to yield to the moſt ſtimulant method of cure, that I could contrive. I once laboured under this modification of aſthenic diſeaſe for no leſs than ten days, and was always able to overcome it in two hours, and procure an interval of complete eaſe and relief for the reſt of the day. The remedies employed were the whole round of diffuſible ſtimuli, as opiates in all their forms, camphor, muſk, volatile alkali, and æther, &c. By theſe the functions for the time were completely reſtored. But their ſtimulant effect was no ſooner perfectly gone off, that is, after the interpoſition of a long ſleep, through the night, than the ſymptoms returned with a violence little ſhort of what it had been the day before. This was proof poſitive, that their nature was aſthenic, or conſiſting in debility; ſince they yielded to ſtimulant remedies; and that the debility was exquiſitely great, ſince it required ſo high a degree of ſtimulant operation to remove it. While that is the undoubted fact, there is a nicety with reſpect to proportion to be attended to in this caſe. It is a rule, that the degree of curative means, whether in the cure of ſthenic or aſthenic diſeaſes, ſhould be accommodated to the degree of the diſeaſed ſtate or degree of the cauſe. If too little of the curative

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mal ſoups, then ſolid meat, the uſual way of living, and precautions againſt debility, effectually re-eſtabliſh the healthy ſtate (*z*). This plan

curative means is employed a proportional part of the diſeaſe will remain: if too much, the diſeaſe will be more than removed, that is, another ſtate which may be morbid in another extreme, may take place. Too much was once employed in this affection, and the effect was, that the diſeaſe was not eradicated till the tenth day of its courſe from the beginning.

(*z*) The rule here is, if indirect debility be the cauſe, to begin with a high degree of ſtimulant cure, and gradually reduce it to the ordinary degree that is ſufficient for the healthy ſtate. And the caution is to be ſure of this gradual reduction, otherwiſe the indirect debility will be liable to return the moment the effect of the ſtimuli is gone off. By an attention of this kind a diſeaſe depending upon indirect debility may be cured in the ſixth part of the time, that would be taken up by the cure, when the remedies are every day carried beyond the due bounds. For example, if the indirect debility be in the table the effect of an application of 71 degrees of exciting power inſtead of 40, that is to ſay, the excitement is worn down to 9 inſtead of being up at 40; it is evident, that an application of 71 degrees by way of remedies, will leave the diſeaſe where it was. Suppoſe only 65 degrees of ſtimulant power adminiſtered; the excitement will fall to 65, and the waſted excitability riſe to 15. Next day let only a degree of exciting

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plan of cure proves to a demonſtration, that theſe affections are very foreign both to ſthenic inflammation and every degree of ſthenic diatheſis; and, as general ſthenic inflammation does not appear to affect internal parts, this affords another argument againſt inflammation being here the cauſe (ſee CLXXXII. and CLXXXIII).

CXCIX. The aſthenic pulmonary affection is accompanied with ſo intolerable a fixed

power as 60 be applied; then the degree of excitement will be that number, and that of excitability 20. Five degrees of exciting power ſtill leſs will reduce the morbid excitement to 55, and raiſe the excitability to 25. And ſo on may the matter go, till the excitability is raiſed to 40 and the excitement reduced to the ſame number. But, if the reduction be much leſs by the day, the cure will be proportionally ſlower. Nay, ſuch an errour may be committed as to increaſe the diſeaſe inſtead of reducing it, which will happen, as often as a degree of ſtimulant power is applied, which is more than equivalent to that which produced the diſeaſe. All this attention and caution is neceſſary in the cure of aſthenic diſeaſes of indirect debility; while that of thoſe of direct debility is eaſy and ſimple, to wit, to give the ſtimulants in ſmall proportion and often repeated, till the diſeaſe is removed, unleſs, which may happen, you can gueſs the proportion, which may ſuffice to remove the diſeaſe at once, or at leaſt, twice.

pain,

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pain, that no bounds have been ſet to bleedings for the cure of it. But they have not only been uſeleſs, but detrimental, and often fatal; whereas, on the contrary, the ſtimulant plan of cure has always ſucceeded (*a*). In this affection the reſpiration is interrupted, and nearly all the ſymptoms that accompany an actual peripneumony, diſtreſs the patient to ſuch a degree as to give riſe to the ſuſpicion, or rather to eſtabliſh a firm perſuaſion, of the preſence of inflammation. Or if any difference was obſerved betwixt this affection and that ſpecies of phlegmaſia, the obſervation only ſuggeſted a futile diſtinction, and a queſtion concerning the ſeat of the inflammation. The opinion that inflammation is the cauſe of theſe ſymptoms ſtill ſubſiſted. But that the diſeaſe depends on pure debility, is abundantly evident from the arguments already adduced. It is increaſed by the antiphlogiſ-

(*a*) A young lady afflicted with theſe ſymptoms was in the courſe of a month bled thirty times, always with a temporary relief, but with a return of the diſeaſe more violent than ever. She was then put upon a ſtimulant plan, and in leſs than a month reſtored to her perfect health. This was among the moſt early cures taken from this doctrine.

tic,

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tic, and removed by the ſtimulant plan of cure.

CC. The following formidable ſymptoms, which moſt medical writers have imputed either 1, to irritation, as typhomania and the ſtarting of the tendons; or 2, to plethora alone; or 3, to plethora joined to mobility; are manifeſtly owing to debility (*b*), the common

(*b*) No diſeaſes are more oppoſite to each other than high ſthenic diſeaſes, ſuch as the common inflammatory fever, or peripneumony, and proper fevers; the former, in the table, ſtanding at the head of the ſcale of increaſed excitement, and the latter at the bottom of the ſcale of diminiſhed excitement. And the ſame method for the cure of both has been purſued, to wit, the evacuant, debilitating. If, in peripneumony, large quantities of blood were taken at a time, the difference has been made up in the cure of fevers by repeating it the oftener; while all the other evacuations were carried on with the ſame profuſion in both. When they talked of the reſpective cauſes of thoſe diſeaſes, phlogiſtic diatheſis was the word for the high ſthenic diſeaſes, and irritation for the high aſthenic. But theſe were words only, while in fact the method of treatment of both was the ſame, at leaſt, in kind; and ſcarcely different in degree. To whatever part of any ſyſtem of phyſic we turn our attention, we conſtantly ſee one mode of practice running through the whole, and that too, notwithſtanding of the ſuppoſed

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common cauſe of aſthenic affections: theſe are ſtupor in apoplexy, in epilepſy and in fever; the falſe wakefulneſs, called typhomania, ſtarting of the tendons, and coma, in fever; convulſion and diminution of the voluntary motions in epilepſy and apoplexy. This appears from the debilitating noxious powers, whether acting directly or indirectly, alone producing theſe diſeaſes; and from the ſtimulant remedies alone, relieving or removing them. It is in vain to impute apoplexy to plethora; as if at a period, when the body is nearly worn out and almoſt bloodleſs, when the uſual degree of aliment is neither deſired, nor taken in, nor digeſted, more blood could be produced than in the flower and vigour of human life. On the contrary, at the time when apoplexy comes on from indirect debility, induced by old age or exceſſive incitement, the ſolids are languid, the quantity of

ſuppoſed great number of diſeaſes, very limited. It turns all upon bleeding, other evacuations, ſtarving, and ſome other trifling directions under the title regimen. It was all antiphlogiſtic to uſe their own language; and, whatever other language they held, the nature of the diſeaſe, if we are to judge from their treatment, was phlogiſtic.

fluids

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fluids deficient, as is alſo their fountain, the blood. Epilepſy depends likewiſe upon debility, and the ſame ſcantineſs of fluids, only here the debility is commonly of the direct kind. Fevers may ariſe from indirect debility, as in the confluent ſmall-pox (*c*), or where drunkneſs has been the principal exciting noxious power applied; but at the ſame time, the moſt frequent cauſe of fever is direct debility. And in all theſe caſes, debility is the primary cauſe and final termination both of the violent ſymptoms and the others.

CCI. Among the ſymptoms of diſturbance ſometimes alſo appear thoſe affections of the

(*c*) The confluent ſmall-pox, as depending upon a very high degree of debility, is ranked among the high fevers in the after part of this work, becauſe the ſcale is not regulated by the appellations given by phyſicians, or by any of their erroneous diſtinctions, but by ſtrict regard to the degree of excitement. And for the ſame reaſon is the violent cholera marked nearly in the ſame place; becauſe the debility, taking place in it, is nearly equal in degree to the moſt ſinking febrile debility; in a word, becauſe the ſame degree of debilitating power produces, and the ſame degree of ſtimulant operation removes, the diſeaſes ſo aſſorted.

head;

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head; great head-ach in fevers, imbecility of intellect, confuſion of thought, and delirium often ſufficiently furious, though occurring in the higheſt degree of debility, and leading to efforts beyond the ſtrength. This ſtate often happens towards the end of typhus even when malignant. Inflammation is apprehended, blood is let directly from the head, bliſters, which ſerve for *extreme unction* in the art of medicine, are clapped on, ſilence and darkneſs are preſcribed, even the moſt gentle ſtimulants are forbidden. In conſequence of the emptineſs of the ſtomach, as well as of the veſſels of the whole body, and of the great degree of languor from the want of many ſtimuli, vertigo is ſuperadded to delirium, and the patient, deprived of ſtrength, ſenſe and intellect, breathes out his laſt.

CCII. But in this caſe there is either no inflammation, or, if there be, it is altogether of a different nature from the general ſthenic one. That it is not the latter, the unſucceſsfulneſs of the debilitating plan of cure, and the incredible ſucceſs of that which firſt ſtimulates, and afterwards fills the veſſels, afford

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ford certain proof: And that it is not any other ſpecies of inflammation is evinced by the ſudden reſtitution of health. Now, as an impaired uſe, or confuſion of the intellectual faculty is, in a certain degree, always the conſequence of debility, whether ariſing from any other ſource, or from emptineſs of the veſſels, and that too even in perſons, who are otherwiſe healthy; where is the wonder, if, in the higheſt degree of inanition, compatible with life, in the greateſt diminution of excitement, where ſcarcely a ſhadow of life is left, the higheſt degree of failure in the intellectual function, that is, delirium, among other inſtances of impaired function, ſhould alſo take place? Nay this very fact is indubitably certain. For faſting, drinking water contrary to cuſtom, after a courſe of hard drinking, or both eating and drinking to intemperance, a gloomy ſtate of mind, grief, terrour, deſpair, not only induce temporary delirium, but frequently bring on downright madneſs. The ſame concluſion applies to any conſiderable loſs of blood. For how many wounded perſons, have not at all, or not till a long time afterwards, recovered

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covered the uſe of their ſenſes. To ſay nothing of contuſions and other injuries, by which the texture of the brain is injured, as belonging to local diſeaſes, of which we are to treat afterwards; how does cold prove fatal? Does not a delirium, in this caſe accompanied with a diminution of all the functions, precede death? From theſe weighty, numerous and authentic facts, which include all the powers, it follows that headach, every degree of failure of the intellect, and that higheſt degree delirium, by no means depend upon general ſthenic inflammation, the only inflammation hitherto diſtinguiſhed; but that they ariſe from the higheſt deficiency, both of other ſtimuli, and of a proper fulneſs in the veſſels, that is from debility. Debility then is the moſt frequent cauſe of theſe ſymptoms, as is proved by the quick reſtoration of health upon the new plan of cure.

CCIII. But if ever the aſthenic inflammation, mentioned (ſee CLXXI. and CCII) before, excites the tumult of ſymptoms, which are our preſent ſubject; it produces that effect in the ſame manner preciſely, that debility produces it, by means of a penury of

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of blood and deficiency of other ſtimuli. For,

CCIV. The general aſthenic inflammation is but aſthenic diatheſis, more violent in ſome one part than in any other equal part (ſee XLIX). The degree of aſthenic diatheſis conſtituting the inflammation is however by no means to be compared with the degree of diatheſis in all the reſt of the ſyſtem; becauſe the whole affection diffuſed over the whole body is far more conſiderable than that confined to a part (ſee XLVIII. XLIX. L. LI).

CCV. Inflammation, in this caſe, is only a ſtate of the inflamed part, of the ſame kind with that of all the reſt of the body. And, as the inflammation is conſtituted by a leſs excitement in ſome one part, than in any other equal part; ſo, before the eſtabliſhment of the diſeaſe (*d*), of which the inflammation

(*d*) See above, par. CLXIX. and compare it with this. The meaning in both is, that, as certain parts of the ſyſtem have more excitability than others (LI.), ſo thoſe parts, which in the diſeaſed ſtate are more affected than any other, that is, are either more excited, as in ſthenic

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mation is a part, a ſymptom, or ſequel, the excitement of that part is underſtood to be proportionally lower, than that of any other part.

CCVI. This ſhould be diſtinguiſhed from local inflammation: It is general, and depends upon a general diatheſis, and only takes place when the diatheſis has attained to a certain degree; while local inflammation ariſes from ſome noxious power, that produces a ſolution or vitiation of the texture of the part, without regard either to diatheſis or degree: The general inflammation is brought on by the ſame noxious exciting powers, which produce the general diatheſis, only applied in

ſthenic inflammation, or leſs, as in aſthenic, than any other, keep up the ſame proportion of diſparity before the arrival of the diſeaſe, before the appearance of any of the ſymptoms, and while, as yet, nothing but mere prediſpoſition has taken place. The truth of this propoſition is eſtabliſhed by that of another ſo comprehenſive as to extend to the whole ſubject of life; which is, that over the whole living creation, throughout the univerſe, health, prediſpoſition to diſeaſe, and diſeaſe itſelf, are the ſame ſtate, only differing in degree, (vide par. XXIII. and LXV.) Health, therefore, is alſo comprehended under this ſame propoſition.

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a higher degree; and the ſame remedies remove both the diatheſis and the inflammation: The local inflammation depends upon noxious powers, that only injure a part, and it is removed by remedies that change the ſtate of the part; but is not affected either by general noxious powers, or general remedies. Thoſe inflammations, which accompany the gout, the putrid ſore throat, the gangrenous ſore throat, and ſore eyes are examples of univerſal inflammation: Local inflammation will be illuſtrated by examples in its proper place (*e*): General inflammation is attended by debility over the whole ſyſtem; which debility is only a ſequel of the local, and that not always. To remove the former the general method of cure (ſee LXXXVIII.) is adapted;

(*e*) As in the inflammation, that is produced by a wounding inſtrument, when a perſon, previous to ſuch an accident, is in health, and continues to be ſo after the accident. Or it may ſtill be local, though a perſon is in bad health when it happens, but ſo, however, as that the general ſtate of the health is underſtood to have no concern in it. A wound in a very tender part may induce diſorder over the general ſyſtem; but ſtill all the ſymptoms can be traced to the wound, and not to the ordinary cauſe of general diſeaſe.

but

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but the cure of the latter turns upon healing up the part. Thus there are four ſorts of inflammation; two univerſal, a ſthenic, and an aſthenic; and two local, one of which is ſthenic, and the other aſthenic. The former often ends in ſuppuration, but is often diſperſed without ſuppuration; the latter in gangrene, ſometimes in ſphacelus, ſometimes in death. If, at the end of typhus (*f*) inflammation affects the brain or its membranes, which (*g*) is, however, not proved, or

(*f*) Or a low-nervous fever, which is a diſeaſe of the higheſt debility, next to the plague, and often not inferior to that diſeaſe in malignity, and, therefore, to be arranged in the ſcale, as next to that diſeaſe, which ſtands at the bottom of diminiſhed excitement. Phyſicians have conſtantly confounded the different degrees of this diſeaſe with ſthenic ones, affecting the pulſe. But they are diametrically oppoſite, as ſhall be pointed out when we come to the proper place for ſuch diſtinctions.

(*g*) Though ſtrongly aſſerted. A profeſſor in his lectures gives a caſe of a typhus fever, where, upon account of delirium and ſome other ſymptoms, thought to announce an inflammation in or near the brain, the patient was ſo freely bleeded, that the ſtate of the pulſe (which is ſaid to have been, in his words, "a pulſus vacivus if "ever there was ſuch a pulſe",) forbid any further bleeding. The patient was given up, and the extraordi-

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or very likely, this will ſerve for an inſtance of an aſthenic general inflammation.

CCVII. As general ſthenic inflammation is occaſioned by a quantity of blood, ſtimulating the veſſels by diſtention; by ſtimulating, increaſing their excitement; by increaſe of excitement, producing more forceable and more frequent contractions; by theſe, increaſing the tone of the fibres as living, and their denſity as ſimple ſolids, and thereby diminiſhing their diameters; and, conſequently, cauſing the blood to flow with great effort through

nary phyſicians withdrew, leaving the ordinary one of the family, only, about him. This gentleman, from ſome impreſſion on his mind, began to think, that another bleeding might be tried with advantage. He bled him, and the patient recovered. This is an account of a caſe that I pretend not to underſtand, and I believe it will be no leſs puzzling to my readers, and the more puzzling, the more ſenſe they have. It is, however, brought as an example, that in a ſeeming expiring debility, the higheſt degree of aſthenic diatheſis, there may be an univerſal ſthenic debility, that requires bleeding. I have mentioned it, not for the ſake of information, but of caution, to the reader. Any perſon may ſee the frivolity and lightneſs of the theories of our profeſſion, but it requires knowledge and diſcernment to guard againſt the ſeduction of facts.

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the contracted veſſels, and to produce pain from the force of the contractions and the narrowneſs of the ſpace through which it has to paſs; and as the ſame, though in a leſs degree, is the cauſe of ſthenic diatheſis over the whole vaſcular ſyſtem, whether red or colourleſs: So,

CCVIII. The cauſe of general aſthenic inflammation is alſo abundance of blood in the inflamed veſſels, producing the ſame effects in the inflamed portion as in the ſthenic inflammation; and, notwithſtanding the penury of blood in every part of the vaſcular ſyſtem beſides, flowing abundantly into the inflamed veſſels, upon account of a greater atony and laxity in them, diſtending them and producing the phænomena peculiar to all inflammations (*b*).

CCIX.

(*b*) Theſe definitions apply to all the four inflammations (par. CCVI.) with reſpect to the ſtate of the inflamed veſſels; their differences only depending upon the general ſtate of all the reſt of the veſſels, which in the local, may be quite the healthy ſtate of theſe, while, in ſthenic general inflammation, it is the ſthenic, and in this, the aſthenic diatheſis, that are conjoined with the inflammatory ſtate. Further, as their cauſe is influenced

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CCIX. As the indication of cure for the former is, to diminiſh the quantity of blood, which is the firſt cauſe of the violent exertion, and, thereby, to reduce the exceſſive excitement to the healthy degree, and the exceſſive contractions, which conſtitute the exertion, to ſuch moderate contractions, as are pleaſant and agreeable to health: So

CCX. The indication of cure for the latter is, firſt, by powerful ſtimuli to propel the blood in every part of the ſyſtem, that the portion which loiters in the languid veſſels of the inflamed part, may be alſo propelled, and the veſſels relieved of their burthen; and then by the gradual adminiſtration of ſeaſoned animal food, in the form of ſoups, and, when the ſtrength is recruited, in a ſolid form, to repleniſh the whole ſyſtem of veſſels.

CCXI. The local inflammations will be treated of afterwards, each in its proper place.

by theſe general circumſtances, ſo alſo is their cure; the ſthenic and aſthenic general inflammations requiring the remedies of the diatheſes to which they reſpectively belong, and the local only the remedies ſuited to heal up the part.

CCXXII.

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CCXII. That inflammation of the throat, which ends in what they call a putrid (*i*) ſore throat, is ſingularly inſidious. During the firſt days it differs little in its appearance from the ſthenic ſore throat. The general ſymptoms are alſo ſimilar. The pulſe ſcarce exceeds the meaſure of the ſthenic pulſe in its frequency and other characteriſtics. For ſome time the whole diſeaſe proceeds with gentleneſs and tranquillity, excepting that a conſtant rejection by ſpitting of a tough mucous matter is troubleſome. At laſt, if it is not counteracted by the moſt powerful ſtimuli, a period arrives, when all the ſymptoms ſuddenly become alarming; when the pulſe becomes very quick, very weak, and remarkably ſmall; when the ſtrength, over the whole ſyſtem, ſinks; and now it is not a

(*i*) The diſeaſe, here mentioned, is neither deſcribed, nor, ſeemingly, underſtood, in medical books and lectures. In this work it is taken, as every thing elſe is, from nature, at the bed-ſide of the ſick, and deſerves ſo much the more attention, that, though it is a diſeaſe of the utmoſt malignity, it ſeems to have been altogether overlooked. Its appearances are mild at firſt, but, without both ſkill and attention, it will end fatally.

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moderate portion of diffuſible ſtimulus that will prevent the lamentable fate of the greateſt ornament of human nature (*k*). The beſt plan of cure is to prevent the mortal period by employing the moſt powerful ſtimuli.

CCXIII. The diffuſible ſtimuli are ſo powerful in removing the inflammation of the gout, that, ſometimes, ſtrong liquors, as wine, and ſpirits, or ſpirits diluted with water, as warm as can be borne, have in a few hours removed the moſt violent fit, and reſtored the uſe of the affected foot. The ſame remedies are of equal efficacy in removing the general ſymptoms (*l*).

CCXIV.

(*k*) All this refers to a lady in Scotland, of ſingular worth and amiability, who died, but not in conſequence of the plan of cure, which this doctrine enjoins, having been followed; eſpecially at the period of the diſeaſe when it was moſt wanted.

(*l*) Treated in the way, here and formerly (vid. the pref.) mentioned, the moſt violent degree of the diſeaſe always gave way in a few days, and milder caſes in as many hours. From hard walking in very hot weather to inſpect the beauties and majeſty of Hampton Court, I have myſelf very lately had a ſlight fit of the gout; but it gave me no ſort of trouble, never hindered me from buſineſs, and I repelled it in leſs than thirty-ſix hours.

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CCXIV. The inflammation in the gangrenous ſore throat is not, according to the common opinion, a primary affection; but, like every other general aſthenic inflammation, depends upon the general diatheſis, which, in this caſe, is manifeſtly aſthenic, being a part or ſymptom of the diatheſis, when that has attained an high degree.

This inflammation has nothing in common with the ſthenic general inflammation, which

hours. I never found a ſingle caſe baffle me but one, where the patient, who, with his valet, had quacked himſelf into the gout as well as other complaints, and particularly an habitual coſtiveneſs, by forcing every paſſage by the belly, for the ſpace of ſeventeen years. I was diſmiſſed, without having my directions complied with; and without being allowed to accommodate the remedies to his practice of purging and throwing up injections, ſo as to endeavour, at leaſt, to prevent or mitigate their hurtful effect. For, it muſt be obſerved here, that, as every directly debilitating power is an exciting hurtful means of bringing on any aſthenic diſeaſe, ſo the effect of every evacuation, and particularly that by the belly, is well known to be a certain means of bringing on a fit of the gout. Among many other means of inducing that diſeaſe, a ſingle doſe of Glauber's ſalt, though that be but a mild cathartic, will bring a fit of the gout on me at any time.

diſtinguiſhes

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diſtinguiſhes the ſthenic inflammatory ſore throat *(m)*, or with the two local inflammations.

CCXV. The crowded puſtules, in the ſmall-pox, when it is converted into the confluent kind, that is, into an aſthenic general diſeaſe, become partakers of the new diatheſis, and, inſtead of ſthenic, which was their firſt ſtate, become aſthenic; and, as by their local ſtimulus, they before quickly changed the ſthenic into the aſthenic diatheſis, by inducing indirect debility; ſo now, by the debilitating influence of their aſthenic nature, they eſtabliſh aſthenia, or a ſtate of de-

(*m*) Yet in their ſyſtems of noſology, which are laboured volumes of diſtinctions without differences, begun, within this half century, to be ſuperadded to the former modes of ſyſtematizing; which, without this new one, had ſufficiently diſgraced the art, and needed no more than the moſt abſurd of the whole, or that the miſled fancy of men could invent, to complete, in all its copartments, the vaſt fabric of errour, and particularly in the laſt of theſe, that publiſhed in Edinburgh, the putrid ſore throat, as deſcribed above (CCXII.) was left out, and the gangrenous, which is that juſt now alluded to in the text, conjoined with the common ſthenic ſore throat, though diametrically in its nature oppoſite to it.

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bility over the whole ſyſtem, which they afterwards aggravate, till death often enſues *(n)*.

CCXVI. To throw light upon theſe two ſpecies of ſmall-pox, by comparing their reſpective methods of cure, it may be obſerved, that the treatment in the one caſe ſhould be quite different from that in the other *(o)*.

(*n*) There cannot be a more exquiſite ſtimulus in living nature, than that univerſal cake of inflamed puſtules, which covers the whole ſurface in the confluent ſmall-pox. It is no wonder then, that, when it is ſuperadded to the ordinary ſtimulant hurtful powers, to which this diſeaſe firſt owes its violence, and afterwards that very eruption; the united effect of both ſhould ſoon paſs the whole range of exceſſive ſtimulus, and quickly run into the ſtate of indirect debility (ſee par. CC.). Such is the nature and progreſs of the ſmall-pox, in paſſing from the ſthenic into the aſthenic ſtate, that is, from one diſeaſe into another of a moſt oppoſite nature.

(o) The cure of the diſtinct ſmall-pox is the debilitating; that of the confluent, the ſtimulant plan. The cauſe of the former is ſthenic diatheſis, that of the latter the aſthenic, occaſioned by indirect debility; which is a diſtinction unattended to in general, and with very bad effect upon the practice. For, when the confluent ſmall-pox is eſtabliſhed, the puſtules flat, and ſigns of mortification coming on, the covering the patient with a ſingle ſheet is as common as in the diſtinct ſmall-pox.

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The remedies of the diſtinct ſmall-pox, and of its accompanying eruption, are cold and whatever, by evacuation or otherwiſe, debilitates. The remedies of the confluent kind, as well as of its accompanying eruption, are heat, ſhort of the indirectly debilitating degree; and all the powers, which ſtimulate as quickly, and as powerfully as poſſible, and, conſequently, the moſt diffuſible.

CCXVII. They differ beſides in this, that all the hurtful powers in the diſtinct kind are ſthenic; all in the confluent aſthenic. And this diſtinction equally applies to both diſeaſes, and both eruptions.

CCXVIII. And as the ſthenic or diſtinct puſtules have a direct tendency to produce a ſthenic inflammation, and kindly ſuppuration; ſo the tendency of the aſthenic or confluent, is as directly to gangrene, ſphacelus, and death.

CCXIX. The boils, carbuncles, and buboes, which often accompany the plague, and ſometimes typhus, ariſe from a contagious matter, taken into the body, and detained with the perſpiratory fluid, under the cuticle, and in the glands. The cauſe of the detention,

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detention, and, therefore, of this eruption, is a total ceſſation of motion in the extreme arteries, eſpecially the glands and perſpiratory terminations, upon account of the univerſal debility, and the very great languor of the heart and arteries. This appears from ſeveral circumſtances: 1. there is no eruption during the period of prediſpoſition, when ſome vigour ſtill remains, and, therefore, the perſpiration goes on in a certain degree; 2. there is none in caſes of ſudden death from the violence of the diſeaſe; 3. no eruption or diſeaſe in all the caſes, where theſe are early prevented by the uſe of the more powerful ſtimulants; 4. the diſeaſe is always mild, and the eruption always ſparing, in proportion to the proper management of the ſtimulant plan of cure. For, whether the ſuppreſſion of perſpiration be the conſequence of a very great degree of the ſthenic diatheſis, or of an equal degree of the aſthenic as in the preſent caſe; all the foreign matter, that ſhould be thrown out of the ſyſtem along with the perſpirable matter, is, together with it, detained; and when ſo detained below the cuticle, by ſtagnating, and acquiring

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acquiring a more acrid nature, it produces local inflammation, either of a ſthenic or aſthenic nature, in proportion to the different nature of each, or rather of the habit.

CCXX. In the ſame manner is that eruption which diverſifies the ſkin in the gangrenous ſore throat to be explained; as well as another, which ſupervenes in that ſtate of the ſmall-pox, which by reaſon of the debility of the ſyſtem, would otherwiſe turn out well; but which, if the new eruption be not oppoſed by the moſt powerful ſtimuli, is ſure to end in death. Both theſe eruptions (*p*) are ſpotted, both red; one is marked by ſmaller, the other by larger ſpots: in this the colour is a fine ſcarlet, far exceeding all art, and almoſt the power of nature herſelf to produce in any other circumſtances. Both

(*p*) A young child of mine, who had been long weakly, and often, in conſequence of that, ſnatched from the jaws of death by being properly ſupported, according to the principles of the new doctrine, had been prepared to receive the ſmall-pox, and inoculated. After the eruption was completed, and it was now certain it would be exceedingly moderate, one morning he was brought before me covered over with the appearance of the eruption deſcribed in the text.

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are owing to a ſuppreſſion of the perſpiration by debility: the former is removed by the ſtimulant plan of cure, which removes all the other ſymptoms; in the uncommon eruption, the debility produced in the preparation, to render the ſmall-pox mild, muſt be oppoſed, as ſoon as the eruption appears, and the ſtrength muſt be reſtored by the uſe of the moſt diffuſible ſtimuli: The puſtules, which are few, do not even attain to the meaſure of actual general diſeaſe, and are, therefore, unattended with danger, and not to be regarded. If this practice is followed, the recovery is both certain and quick; but, if it be neglected, or if a contrary plan of cure be adopted, death is inevitable (*q*).

CCXXI.

(*q*) It is certain, that the ſafe conduct of the ſmall-pox depends upon debilitating the habit which is to receive the infection; and it is as little doubtful that we may carry that operation a great way, by lowering the diet, purging the belly, and applying intenſe cold to the ſurface, and, by all means, guarding againſt all alternation with heat. By this means the phlogiſtic diatheſis, chiefly ariſing from the ordinary powers, and in part, as it would ſeem, from the contagious matter, is prevented or removed; the great flow of the fluids to the ſurface checked; and the diameters of the perſpiratory, as well as of all

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CCXXI. Heat is not peculiar to ſthenic pyrexiæ (*r*), but belongs alſo to other ſthe-

all the other veſſels, kept open and patulous. But it had been long a queſtion with me, whether this debilitating operation might not be carried too far. If it be certain, as it is, that extreme debility ſuppreſſes perſpiration, ſurely the proceſs puſhed near to that degree muſt endanger that event. This phenomenon happening to my child, ſolved the doubt that I had not yet decided, and it ſeemed to be in perfect conformity to the principles of this doctrine, to underſtand, that, as this child had been formerly weak, and, perhaps, ſtill retained ſome degree of that ſtate, the further weakening him by the preparatory management, for the better regulating this diſeaſe, had been carried too far. A ſurgeon happened to be by when the child was under examination; I aſked him if he had ever ſeen ſuch a caſe, for I had neither ſeen, nor heard, nor read, any thing like it. His anſwer was, that he had ſeen three, and all of them fatal. I knew how that would happen, that is, that they would continue the debilitating practice they had been following. On the contrary, I ordered the child ſpirit and water, and a little of an opiate, then reſtored the meals that had been taken from him, and brought him about to his perfect health (for the ſmall-pox gave no trouble) in twelve or ſixteen hours.

(*r*) Pyrexia is the word for ſthenic diſeaſes affecting the pulſe, called febrile, or fevers, very improperly, while the term fever is reſerved for the high aſthenic diſeaſes that have been confounded with the pyrexiæ.

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nic diſeaſes. Nor is it ſo confined to the diſeaſes, as not alſo to ariſe in all the degrees of prediſpoſition in proportion to the degree *(ſſ)*. Nor is this all. Heat alſo attends all aſthenic diſeaſes, whether febrile, which is a diſtinction without any good meaning, or not febrile, and alſo the prediſpoſitions to them all, in proportion to the degree of debility. There is not a more certain mark of the decline of a diſeaſe, whether ſthenic or aſthenic, than a return of that temperature, which is commonly called cool, to diſtinguiſh it from morbid heat.

CCXXII. The heat is then only natural, when neither diatheſis is preſent. From that point it increaſes, through all the degrees of

(ſſ) That heat takes place in prediſpoſition, is a matter of daily obſervation. Thus, when a perſon has no other ſymptom of diſeaſe, it is often remarked, ſometimes by himſelf, ſometimes by another, who may have happened to feel his hands, that he is certainly not quite well as his hands are hot. When this heat happens, either in the hands or feet, without any cauſe to account for it conſiſtently with health, it is a ſure prelude of diſeaſe, that is, a ſure mark of a conſiderable prediſpoſition to diſeaſe: and the kind of diſeaſe, of which it is the harbinger, is oftener aſthenic than ſthenic.

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increaſed excitement, till indirect debility, from exceſs of ſtimulus, is eſtabliſhed; and it increaſes in proportion to the degree of excitement, rendering the perſpiratory veſſels always leſs and leſs patulous. It alſo increaſes through all the degrees of diminiſhed excitement to a certain boundary, which is fixed by a cauſe by-and-by to be explained; it increaſes in proportion to the degree of decreaſing excitement, though the latter all along renders the perſpiratory veſſels more patulous; and, thereby, among other effects, diminiſhes the motion of all the veſſels, and particularly of the perſpiratory.

CCXXIII. When the heat has attained its higheſt degree, and the debility has increaſed in proportion, it is at length in the extremities, and then gradually in the reſt of the body, ſucceeded by cold. This is a bad ſign. In the progreſs of debility motion begins to be very languid, firſt in the ſmall veſſels at the extremities of the limbs, and then it ceaſes altogether. Hence, as animal heat, whether in due proportion, or in exceſs, depends upon the due, or to a certain degree deficient or exceſſive, motion of the blood

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blood and other fluids, the heat of the body, in the preſent caſe, almoſt entirely diſappears; that is, the effect, according to an univerſal law of nature, ſubſides along with the cauſe. The ſame thing happens in both extremes of excitability, that is, of exceſſive abundance in direct, and of great exhauſtion in indirect debility; for, whatever be its ſource, debility is always the ſame.

CCXXIV. As in ſthenic diſeaſes the excitement is for the moſt part much and equally increaſed over the whole body; the heat is alſo equally diffuſed. To this, the only exceptions are, 1. where the violence of the diſeaſe produces indirect debility in certain parts, as in the ſtomach, in which ſickneſs indicates the near approach of that ſtate; or 2. where direct debility comes on from the debilitating plan of cure having been puſhed too far. But, ſo long as the ſthenic diatheſis prevails, and ſupports a high excitement, the heat will almoſt always be equal.

CCXXV. The ſame thing happens in moderate debility. Accordingly, through the whole courſe of prediſpoſition, and in all caſes ſhort of almoſt a total ceſſation of motion,

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the heat is pretty equal. The effect of ceſſation of motion has been explained. But, before that happens, if any inequality of heat occurs in diſeaſes of moderate debility, as is frequently the caſe in the hands and feet; the reaſon is, that a greater degree of debility has been induced upon thoſe parts, than upon others; by cold, for inſtance, labour, or ſweating, any way excited, eſpecially when the ſweat has been cold and clammy. Not only in the gout, but alſo in other affections both of direct and indirect debility, a burning heat, chiefly diſtreſſing to the ſoles of the feet, torments the patient, eſpecially in walking. That this ariſes from debility, checking perſpiration, is proved by fatigue, cold, and other debilitating powers proving hurtful to it; and heat, reſt, and other ſtimulant powers, giving eaſe.

CCXXVI. It remains now to explain, how too great excitement, in high ſthenic diſeaſes, impairs ſome functions without a debilitating operation; and how too ſmall an excitement, in violent aſthenic diſeaſes, ſeems to increaſe ſome functions, though the appearance is always fallacious.

CCXXVII.

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CCXXVII. If, in peripneumony, ſynocha, and violent rheumatiſm, the voluntary motions are impaired to ſuch a degree, that a perſon can uſe neither his hands nor his feet, any more than a paralytic perſon; this is not owing to debility, or diminiſhed excitement, whether directly or indirectly (*t*), as is evident

(*t*) When the excitement is at 40 all the functions are performed in the beſt and completeſt manner. Above that there is more force through all the ſteps of predispoſition, but with leſs durability and ſteadineſs; which is exemplified by the compariſon of hard labourers, who at the ſame time are well ſupported, and gentlemen, who live well, without uſing a proportional degree of labour or exerciſe to prevent a luxuriant ſtate of vigour. When two ſuch perſons are ſubjected to a comparative trial of their vigour in any exertion, the former will be found ſo go through the exertion with more ſteadineſs, and to hold out longer and better than the other; even though his firſt efforts may have been inferior in force to thoſe of his antagoniſt. And the reaſon is evident; a moderate and proper degree of vigour, will bear an addition of ſtimulant operation longer than a higher degree of it approaching to morbid ſtate; becauſe the diſtance of the excitement from indirect debility, which puts an end to excitement, is greater in the former than in the latter caſe. The difference in the well-ſupported labourer is 30 before he can reach an increaſe that leads up to 70; whereas

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dent from this double proof; 1. if the apparent debility were real, ſtimulants would be of ſervice, and 2, debilitating remedies of diſſervice (*u*). But the reverſe is the truth. For the ſame debilitating powers, which cure the other ſymptoms of confeſſed exceſſive excitement, alſo remove this indiſpoſition to the performance of motion; and the contrary powers increaſe the affection.

CCXXVIII. Again, in ſpaſms and con-

whereas that of the gentleman is perhaps not more than 20. The exertion in the ſtruggle adds ſtimulus; which will be better borne by him who has leaſt and yet enough, than by him who has more, but of a ſuperfluous degree, and more liable to run into the extreme of a ceſſation of excitement. The effect of the exertion in the labourer will be to carry him ſoon up, by its ſtimulant operation, to the degree of excitement where the gentleman began, ſuppoſe that to be 50, and perhaps by and by to 60. But the ſame ſtimulus of exertion in the gentleman will have the effect of firſt mounting up to 60, and by and by to 70, where the excitement begins to ceaſe.

(*u*) Who would adminiſter wine, opium, and the other high ſtimuli, whether durable or diffuſible, to cure the inability to perform motion in either peripneumony or that rheumatiſm which is highly ſthenic? Or rather who would think of any other means of removing that ſymptom, than the debilitating powers, ſo effectual in removing all the reſt, and not leſs ſo in removing it?

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vulſions, either of the involuntary motions in the internal parts, as in dyſpepſia, in colic, in dyſentery, in cholera, in hyſteria, in violent vomiting or diarrhœa, (great numbers of which affections happen every day, without being diſtinguiſhed by names); or in the burning affection of the alimentary canal, which is conſidered by phyſicians as an inflammatory affection; or in affections of the voluntary motions externally, as in the lock-jaw, in tetanus (*x*), and in many ſpaſms of other

(*x*) Tetanus is a violent ſpaſmodic motion of the muſcles of the head, neck, and upper part of the thorax, whereby the head is kept immoveably in the ſame poſition, in which it had been found upon the coming on of the ſpaſm. The teeth alſo, from the affection occupying the muſcles of the under jaw, are kept immoveably locked, and hence the name of lock-jaw. Beſides the affection of the muſcles, that has been mentioned, there is ſcarce one muſcle in the whole body, free from one degree or other of the affection. Further, there is a moſt painful feeling over all, but eſpecially in the parts moſt affected. This diſeaſe ſometimes happens in cold countries, ſuch as this, in conſequence of a wound in any ſenſible part, or when ſmall bones, as the oſſa ſpongiſa, are bruiſed, craſhed and daſhed into the ſofter parts. The part of it called lock-jaw is frequently a

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other parts; or in convulsion, epilepsy, and many other similar affections; if the functions seem very much increased, this is not owing to increase of strength, that is, to increase of excitement, as will appear to any unprejudiced judge from the following twofold consideration; 1. if this were a case of

symptom in fevers. But the disease is more frequent in warmer countries than this, as in the south of Europe, where the excess of heat is liable to run into indirect debility. It is most frequent of all in the torrid zone, where indirect debility is the most constant attendant on heat. As a violent and permanent contraction of the muscles was the most striking symptom of it, and systematic physicians supposed every such contraction the effect of an increase of excitement, or, to use their own words, an increased influx of the nervous fluid or nervous power into the parts affected; consequently their indication of cure was to relax the rigid contracted parts. Hence no bounds were set to their emollient relaxing measures. Such were bleeding, other evacuations, and warm bathing. But experience soon taught, that all these increased, instead of removing the disease. Of late opium, because it was thought a sedative, was tried. The trial succeeded. But immense quantities of that medicine were found necessary to effect the complete cure. Laudanum used to be thrown in without measure, or any other rule, but to give it on till the disease ceased.

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really increaſed ſtrength, debilitating powers, or the remedies of ſthenic diatheſis, would remove it; and 2. ſtimulants not proceeding to their ultimate effect of inducing indirect debility, but confined within that limit, in which they remove aſthenia, would increaſe it. But the truth is juſt the reverſe (*y*). For ſtimulants alone, which remove the other ſigns of acknowledged debility, alſo remove theſe ſpaſms and convulſions; and debilitating powers increaſe them or change the diſeaſe into a worſe (*z*).

CCXXIX.

(*y*) Who does not now know, that bleeding, and evacuations of other kinds are hurtful, and that ſtimulants proportioned to the degree of the cauſe, are the only ſucceſsful remedies?

(*z*) A certain gentleman in his deſk, ſpeaking of the method of curing epilepſy or the falling ſickneſs, and recommending, among other evacuant and otherwiſe debilitating means, ſmall but frequently repeated bleedings, unguardedly contradicts himſelf in his very next ſentence. "However," ſays he, "we regular practi-"tioners are liable to be too cautious and even timid "ſometimes. For I have known a bold practitioner in "the country, who cured an epilepſy by very profuſe "bleeding. In a few months after the patient died of an "univerſal dropſy, but the epilepſy never returned."

I would

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CCXXIX. As we know not what contraction is (and we are indeed ignorant of the manner in which every function of the living ſyſtem (*a*) is performed) we ſhall not diſpute whether

I would aſk this gentleman, what ſort of a cure that was, that converted a diſeaſe, which may come and go for many years, nay even for a long life-time, into one that, in a very ſhort time, proved fatal? What reaſon would a podagric have to thank any one, who ſhould convert the gout in him upon any violent attack, into a fatal dropſy? That ſort of treatment is not curing a diſeaſe but increaſing it, and that even to death. The convulſive ſymptoms of an aſthenia may paſs away; but the aſthenia remains. You may ceaſe to call it epilepſy; but dropſy ſtill ſhows that the cauſe of the diſeaſe remains, nay is prodigiouſly increaſed. This fatal miſtake of an increaſe of the diſeaſe upon the whole, for the cure of an inferior degree of it, proceeds from an improper uſe of directly debilitating powers in place of the proper ſtimulant ones. But there are caſes, where the laſt, by being carried too far, produce the ſame fatal miſtake. Thus in peripneumony, to get rid of the hard pulſe, and the acute pungent pain (ſee above, CLXXIV. and the notes), the bleedings are carried ſo far as to produce a fatal hydrothorax, or dropſy of the cheſt.

(*a*) This is, perhaps, the firſt philoſophical performance in which care has been taken to keep clear of abſtract cauſes. The proſecution of them has contaminated almoſt every department of knowledge that had been treated

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whether it be an increaſed or diminiſhed function: we ſhall however by no means allow theſe ſpaſmodic and convulſive motions to be any other than an impaired function (*b*); for, if, within certain boundaries, excitement, when increaſed, produces more ſtrength, and

treated ſcientifically. See the introduction to my Obſervations on the principles of the old Syſtems of Phyſic, &c. where it will appear, that even the great ſir Iſaac Newton did not altogether avoid this errour, eſpecially in the queſtions he put, however modeſtly, with reſpect to an all-pervading æther; the wanton and aërial theoretical fabrics that have been raiſed upon which, have, in ſpite of lord Bacon's better directions, diſgraced the philoſophy of the middle of the eighteenth century. Compare what you will find in that book with the III. Chap. paragraph XVIII. in this.

(*b*) I know not what the abſtract ſtate of muſcular fibres is, either when they contract and relax with rapid, violent, and morbid force, or when they remain immoveably fixed in one forcible permanent contraction: But I know, that nothing but debilitating powers produce theſe effects, and nothing but invigorating ones remove them, which is enough for me, who mean to prove myſelf a ſure and cautious obſerver of the phænomena of nature; and in my practice as a phyſician, to avoid, after the example of many others, groping in the dark under the guidance of abſtract reaſoning, but to view every ſubject of obſervation by nature's cleareſt light.

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leſs when it is either diminiſhed without limitation, or exceſſively increaſed; and if every function ſo ariſing is properly defined to be either a function increaſed in proportion to the increaſe of excitement as contained within its boundaries, or as a function diminiſhed in proportion to the deficiency of the ſame excitement, without limit, or to the ultimate increaſe of exciting power beyond the ſtimulant range; in the laſt of theſe caſes it is a moſt proper definition to ſay, that the function is diminiſhed; and in the firſt, that it is increaſed (*c*).

CCXXX.

(*c*) In the ſpaſmodic and convulſive ſtate of the function of motion, when compared with the vigour of the ſame function in its healthy ſtate, who would ſay that the former is greater than the latter? The healthy and vigorous ſtate of motion conſiſts not in the degree of contraction, but, with a certain degree of that, in the well proportioned alternation between contraction and relaxation; of which we have proof indiſputable in this mode of motion being beſt performed in that middle ſtate of vigour, that intervenes betwixt the extreme of the healthy, or moderately increaſed vigour, and the other extreme of direct or indirect debility. The increaſe of vigour and excitement keep pace to a certain extent, even through ſome degrees of morbid exceſs of the latter: but a period, and that ſhort of indirect debility, arrives, as

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CCXXX. The notion, therefore, hitherto received with reſpect to theſe motions, is falſe.

as in peripneumony, where the excitement is increaſed beyond the healthy ſtate, and muſt be reduced in order to reſtore the due healthy vigour. There are other caſes, as that of mania, or ſthenic inſanity, where the conjoined increaſe of vigour and excitement will ſtill go further. But in every caſe the increaſe of vigour, ſtill judging of it from its effects in the healthy ſtate, ceaſes before that of excitement; and, perhaps, we may make a ſtep towards finding the boundary, by obſerving, that the greater the ſum total of exceſs of exciting power is, the ſooner does the point arrive, beyond which the vigour does not proceed. In peripneumony it ceaſes at a certain period of the diſeaſe where the ſalutary effect of bleeding and other debilitating means ſhows that the increaſe of excitement is ſtill going on. But here the ſum total of excitement, conſidering the ſtate of all the other functions, is greater than in mania, where the function chiefly increaſed in vigour is only that of voluntary motion, while all the functions of involuntary motion are very little affected. From this inveſtigation we can clearly diſcern, that every increaſe of excitement leads to a morbid increaſe of vigour, and that there is, ſomewhere or other, a point in the ſcale of increaſing exitement, and below the point of indirect debility, where the vigour is no further increaſed; and this inference ariſes with reſpect to the practice, that we ſhould be very obſervant of both facts, as pointing out a very material diſtinction in the indications of cure; that in

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falſe. It goes upon the ſuppoſition (*d*), that the motions proceed from an exceſſive influx of the nervous fluid, according to the firſt manner of expreſſion (*e*), or of the nervous power

in indirect debility being to ſtimulate, while that at the ceſſation of vigour is to continue to debilitate till the ſum total of exceſſive vigour be reduced to the proper and healthy. The inability to the performance of motion in peripneumony is an inſtance of the latter; that of the converſion of the ſame diſeaſe from exceſs of debilitating cure is an inſtance of the former.

(*d*) Indeed they have talked ſo confidently of it, that they may more juſtly be arraigned of going upon a petitio principii, or that errour in logic, where a point chiefly required to be proved, is taken for granted, and made a ground work of other reaſoning.

(*e*) From a microſcopical obſervation of Leuenhoeck, where he once thought he ſaw a hollow cavity in the nerves (but could never ſee it again, nor any body after him, though that inſtrument has been infinitely improved ſince his time), the celebrated Dr. Boerhaave took his noted intertexture of veſſels, making the whole maſs of living bodies conſiſt of ſuch. The functions were, at that time, ſuppoſed to depend upon an inelaſtic fluid ſecreted in the brain, and diſtributed in the cavities of the nerves, to every part of the ſyſtem. Much reaſoning has been employed in refutation of that beautiful, though fanciful, ſyſtem. But the only reaſon, that ſhould have been been employed againſt it, was to deny the

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power (*f*) as they now ſpeak; that is, if the words have any meaning, from an exceſſive ex-

the truth of the hypotheſis upon which it was built; and that negative argument might have been ſupported by this poſitive one, that it is now known, that the nerves are ſolid ſubſtances, and not hollow tubes. The next theory that was taken up was, that though the nerves were ſolid ſubſtances, yet they were porous, and, therefore, fitted to receive into their pores an elaſtic fluid, like the electrical, the magnetical, and like, or rather a modification of, the ſuppoſed æther of Newton; that this inelaſtic fluid alſo floated upon the ſurface of the nerves, and formed an atmoſphere around them, and by it all the functions of living ſyſtems, even thoſe of the moſt perfect, the human, were explained. For a full account of it ſee the Preface to the Obſervations on the Principles of the old Syſtems of Phyſic, from page 19 to page 58. Among other applications of the æther, under the denomination now of nervous power, one was to make its influx into the muſcular fibres affected with ſpaſm, or convulſion, the cauſe of theſe morbid motions; as its influx, as an inelaſtic fluid, into the hollow cavities of the nerves, had been before ſuppoſed to afford the ſame explanation.

(*f*) That was their word, after an ingenious philoſopher in Edinburgh, whoſe diſſertation upon this ſubject is given at full length in the place of the Obſervations referred to, had ridiculed them out of their æther.

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citement in the fibres (*g*). Now as, according to the logicians, "errour draws on errour;" ſo this falſe notion of the abſtract cauſe led to another miſtake with reſpect to the operation of opium. And as they ſenſeleſly enough ſuppoſed exceſſive motions to be occaſioned by an exceſs of the principle of life, at leaſt in the labouring parts, ſo they either thought, or taught, that opium poſſeſſed the virtue of checking or allaying, as a ſedative, theſe motions; an hypotheſis contrary to the whole analogy of nature, and to the certain proof afforded by all the exciting powers, every one of which has been proved to be ſtimulant, not one ſedative; but though it ſhould be a queſtion whether there be not in nature, or among thoſe powers, that are commonly applied to animal bodies, ſomething ſedative,

(*g*) It is here to be obſerved, that the change of the theory here has led into a vagueneſs of terms. It might have been proper, had the notion of either an inelaſtic, or elaſtic, fluid, been retained, to have called the ſuppoſed cauſe of the function a fluid, and to have talked of its influx as ſuch; but now that we know nothing about it, or whether it has any exiſtence at all, to call it a power, and yet to talk of its influx or efflux, its flowing in or out, is ſurely vague and incoherent.

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how can there be any uncertainty as to the ſtimulant power of opium? Has it not the ſame effect upon the Turks, that wine has upon us? Or, are we to ſuppoſe, that the troops of that people, on their march to battle, chew opium, to check their natural alacrity and to depreſs their courage? If fevers, if the gout, if indigeſtion, if the colic, if aſthma, and the whole train of ſpaſmodic and convulſive diſeaſes, in fine all aſthenic diſeaſes, have lately, to the conviction of every perſon who has given the ſubject due conſideration, and, contrary to the expectation and opinion of all men hitherto, been proved to yield to the various forms of opium without difficulty; and if all the diſeaſes, in which it is ſerviceable, have been demonſtrated to be affections depending on debility, are we to allow that opium proves of ſervice, by an operation that is further debilitating, or rather that extinguiſhes the miſerable remains of nature's motions? If various kinds of wine, and other ſtrong liquors, have a very great effect in removing the ſame diſeaſes, which has likewiſe been diſcovered by late experiments, and are, therefore, beneficial by the ſame mode of oper-

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ation as opium, are we to allow that this ſimilitude of operation argues a diverſity, nay an oppoſition in the nature of the powers that agree, with ſuch harmony, in producing the ſame effect? Laſtly, if opium cures diſeaſes, that depend upon a confeſſed deficiency of motion (*b*) as well as diſeaſes in which the motions, though ſeemingly increaſed, are in reality diminiſhed; what can be oppoſed to ſo cogent an argument, added to ſo many ſtrong ones already advanced? In truth, opium is not a ſedative; on the contrary, as it is the moſt powerful of all the agents that ſupport life, and that reſtore health, and a

(*b*) In one fit of the gout, when its paroxyſms were allowed to return, in conſequence of a diſreliſh that I had taken for a certain ſtimulus of the drink kind, and, therefore, all at once abſtaining from ſtimulus, I fell into a ſtate of perfect inaction, and, though without feeling of pain or uneaſineſs, ſo devoid of muſcular force, or capability of producing any motion or exertion, that even the ſlight degree of muſcular contraction neceſſary to ſupport my poſture in bed failed. In that ſtate, when my eyes were glazed, the whole dangerous paroxyſm was removed by changing my drink into a more agreeable one; any ſtrong drink would have anſwered, and opium of all.

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truly bleſſed remedy, to the divine virtue of which the lives of ſo many mortals have been owing, and, in future, will be owing; ſo it muſt be acknowledged, that ſpaſms and convulſions, over which it has ſuch great power, do not conſiſt in increaſed, but diminiſhed excitement, and that opium cures them by the ſame operation by which it cures any other of the diſeaſes depending upon debility.

CCXXXI. Sometimes in diſeaſes there is a preternatural flow of blood. Thus in ſthenic diſeaſes blood drops from the noſe; is ſparingly expectorated from the lungs; or tinges the urine. The firſt and laſt of theſe three are conſidered as critical ſigns; but they indicate only an abatement of ſthenic diatheſis, and a diſpoſition to indirect debility. This effect, for the moſt part, ſoon goes off, leaving behind it a ſtate of convaleſcence. Soon afterwards health is re-eſtabliſhed, for indirect debility is ſeldom induced to any conſiderable degree.

CCXXXII. Great and continued diſcharges of blood, whether from the uterus, from the anus or its vicinity, or from the

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noſe, depend upon pure debility (*i*). An overproportion of blood, violently diſtending the veſſels, and eſtabliſhing indirect debility, may ſometimes be the primary cauſe. But, in this caſe, if no other debilitating, particularly no directly debilitating power, has co-

(*i*) Theſe are the ſeveral hemorrhages of ſyſtematic and noſological authors. They have hitherto been ſuppoſed to depend upon ſthenic, what they call phlogiſtic diatheſis, and the particular diſcharge to be ſupported by an activity, an effort, what they call a molimen hæmorrhagicum, in the veſſels pouring out the blood and the parts of the veſſels immediately behind. Their continuance was accounted for upon the ſuppoſition of there being an overproportion of blood in the ſyſtem, or what is commonly called a plethora; but they are all aſthenic diſeaſes, depending upon relaxation and atony both of all the reſt of the vaſcular ſyſtem, and particularly of the bleeding veſſels, (ſee above, CXXXIV. χ.) and, inſtead of a plethora, there is a penury of blood; all which is proved by the phenomena during the prediſpoſition, when little food is taken in, and leſs, upon account of the weakneſs of the digeſtive organs, is digeſted; theſe circumſtances are increaſed after the arrival of the diſeaſe. The pulſe withal is weak, ſmall, and frequent; and the patient puny and emaciated. The diſeaſe is increaſed by bleeding and other evacuations, and both relieved and removed by wine, ſpirits, and diffuſible ſtimuli; a method of cure which, till within theſe fifteen years, would have ſtartled all the phyſicians upon earth.

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operated with the cauſe; if the diſcharge be ſtopt by a ſtimulant plan of cure; if the body is ſtrengthened, and the laxity of the veſſels taken off, the whole affection will ſoon diſappear, and health be reſtored. On the contrary, when indirect debility has not taken place, and directly debilitating powers have been applied; ſuch as thoſe juſt deſcribed, more eſpecially, if the diſeaſes are treated by bleedings and other evacuations, if abſtinence, vegetable food and watry liquids have been employed; in this caſe the complaint becomes chronic, troubleſome, and at laſt dangerous or fatal. That theſe affections depend upon debility, is proved by the failure of the debilitating, and the great ſucceſs of the ſtimulant plan. The true cauſe of diſcharges of blood is not plethora, which cannot take place in the caſe of perſons ill nouriſhed, from water drinking, or the aplication of other noxious powers, that equally deſtroy the tone and denſity of the veſſels (CXXXIV. and χ.). For as food is almoſt the only material, from which blood is formed; how, when it is withheld—in the abſence of the cauſe—can the effect remain? And,

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if, from the debilitating effect of other noxious powers, the food that is taken is not digeſted, how can there be an over proportion, and not a manifeſt deficiency of blood?—But it may be alleged, that loſs of blood, and every debilitating power, diminiſh perſpiration, and that hence the quantity of blood is increaſed.—But how, I aſk, can this effect be produced?—The matter, from which the blood is made, it may be anſwered, is taken into the ſtomach, and a ſmaller quantity of fluid paſſes off by perſpiration,—But, 1, little food is taken in; and 2, that little is not digeſted (*k*); 3, after the ſerous part has been ſeparated

(*k*) No idea in medical writings ſeems ever to have been formed of the body as a whole. On the contrary, nothing has been more common, than to talk of the functions as operating in a great meaſure, each from a cauſe exiſting within itſelf, or but ſlightly and arbitrarily connected with ſome other. This falſe notion was carried to its moſt ridiculous pitch in the doctrine of ſympathy, and not rendered much more decent, after the word conſent of parts came to be ſubſtituted in its place. Thus, the common expreſſions were the ſympathy or conſent of the ſtomach with the head, of the ſtomach with the face, of the ſtomach with the external ſurface, of the latter with the internal, and particularly with the inteſtines,

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ſeparated from the red, will it, if detained and carried back into the circulation, again become blood? Should theſe queſtions, to which there is no poſſibility of replying, ſeem to leave any room for doubt; are we to believe that one part of the body can be in ſuch a ſtate of vigour, as to produce an over proportion of blood, and another in ſo languid a ſtate, as not to be able to diſcharge a ſubſtance derived from the blood, and afterwards corrupted by the due outlets? And muſt we, giving up our fundamental principle after ſo complete an eſtabliſhment of it, allow, that the excitability is not the ſame, uniform, undivided property over all the ſyſtem; that the powers acting upon it are not the ſame; finally that matter can be created out of nothing (*l*)? It is in vain to talk of the fattening

inteſtines, of the excretions with each other, of the feet with the kidneys, and ſo forth. It was never dreamed, that there was one over-ruling principle throughout, upon which all the functions depended. The ſtomach, for inſtance, cannot be ſtrong while the perſpiratory organs are weak, and therefore take in, and digeſt too much while they cannot throw out their fluid.

(*l*) It has been proved in the IVth chapter of Part I.

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ing of chickens and cattle by keeping them in a ſtate of reſt. The conditon of health and

that the excitability is one uniform, undivided property over all and that, in whatever part of its ſeat it is acted upon, that action extends inſtantaneouſly over all; that though ſome parts, differently upon different occaſions, may be more acted upon than any other, equal in ſize and nervous importance, that that is only in ſo inſignificant a proportion as to have no effect in conſtituting an inequality of action in the ſyſtem. Again the force of the powers that act is a given force, being either weak, in due proportion, or exceſſive, or weak again from ultimate exceſs. Their effect then upon the ſyſtem, which receives their action in every degree in which it is communicated, and that with the utmoſt exactneſs, muſt always be the ſame, that is, either direct debility, health, ſthenic diatheſis, or indirect debility. To apply this to the preſent caſe, the ſtomach cannot be healthy, or under a prediſpoſition to ſthenic ſtate, and thereby take in and digeſt, with the help of the other digeſtive organs, too much of the matter, from which blood is made; while the perſpiratory veſſels are too weak to perform their function of throwing off the excrementitious matter. On the contrary, the ſtate of the ſtomach muſt run through the whole living ſyſtem. If it can perform its functions properly, or in whatever degree it performs it, all the other organs of digeſtion, the upper part of the inteſtines, the biliary veſſels, the lacteals, the veins betwixt their common trunk and the heart, the heart through all its cavities, the whole arterial ſyſtem, and the

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and diſeaſe is very different. In the former there is a certain latitude in the ſtrength of the ſtomach; in the latter, and eſpecially in diſeaſes of debility, the digeſtive powers always ſuffer much. In fine, it is an univerſal and conſtant effect of debility, to produce a deficiency of the fluids in the internal parts of the ſyſtem with a general relaxation of the veſſels, eſpecially about their excretory terminations, and a diſcharge of the fluids by ſome of the out-lets. When death happens

the colourleſs terminations of that ſyſtem, whether exhalant or glandular, and the excretory orifices of theſe, the inhalants, and all the venous blood returned by the arteries, laſtly, all the excretories upon the external and internal ſurface, all theſe will perform their functions in the ſame degree as the ſtomach whether properly or imperfectly. To promote the moſt perfect health all the exciting powers muſt be applied, each in its due proportion. And the want of any one or more may make ſome odds, which is inſignificant to this point. If a perſon has not had his uſual exerciſe a cheerful glaſs will prepare him for ſleep. For want of the ſame exerciſe the appetite will be impaired, but ſo is the function of perſpiration. Too much exerciſe under heat will impair the appetite, but it alſo impairs the perſpiration after a perſon gets into a ſtate of reſt. In ſhort, any ſlight inequality from want of any one or more ſtimuli can be made up by others. See above par. XLI.

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during an entertainment, the event is not to be imputed to an over proportion of blood. That cannot be produced in ſo ſhort a ſpace of time. The liquor drunk has no effect in filling the veſſels. Thoſe only, who are in a ſtate of direct or indirect debility, meet with ſuch an end; never perſons, who have an over proportion of blood; which, as the appetite of the former is gone, and the digeſtive powers deſtroyed, cannot be produced.—In what diſeaſes was plethora ſuppoſed to take place? Not in diſorders, in which the digeſtive organs, and thoſe that produce blood, in fine, in which the whole ſyſtem, are in a ſtate of vigour; where the appetite is keen, the digeſtion perfectly performed, and the digeſted matter completely converted into blood; but in diſeaſes, in which upon account of the debility propagated over the whole body, all the functions are in a ſtate of langour, and in which the only matter, ſuited to make blood, is either not applied, or not aſſimilated. Thus, the gout, apoplexy, epilepſy, palſy, aſthma and hyſteria, indigeſtion in perſons, who have been formerly addicted to luxury, thoſe very diſeaſes, which

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are our preſent ſubject, hemorrhages, as they are erroneouſly called, laſtly, the far greater part of aſthenic diſeaſes, have been thought, at all times and by all phyſicians, to depend either upon plethora with vigour, or plethora with mobility. But in fact all theſe diſeaſes, even thoſe accompanied with diſcharge of blood, depend upon a penury of blood and upon other debilitating powers; this appears from the conſtant failure of the antiſthenic plan of cure to the great diſgrace of the profeſſion, and from the incredible ſucceſs of the new ſtimulant plan. As to diſcharges of blood, conſider whom they affect; conſider alſo the exciting noxious powers, and the ſymptoms. During the whole period of prediſpoſition the patients are delicate and weakly; they have very little appetite, and what food they take, is ill digeſted, and often rejected by vomiting. In this weak ſtate they are not ſupported by the ſtimulant operation of corporeal, or mental exerciſe; nor by that of high ſpirits, for they are quite dejected; nor by that of pure air, which they are not able to go out to take; nor by that of agreeable ſenſation; nor by that of ſtrong liquors,

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liquors, which from the wrong advice of their phyſicians, they look upon as poiſon; nor by that of the diſtention of the veſſels, for theſe are not ſufficiently filled with blood; nor by that of the ſecretory ſmall veſſels, upon account of their ſluggiſh motion, and the univerſal ſtagnation of their degenerated fluids and the direct debility conſtantly thence ariſing. What ſort of pulſe have they? Such, as it is in all diſeaſes of manifeſt debility; for inſtance, in fevers, (in which laſt, which is ſurpriſing, their favourite plethora was ſeldom ſuſpected); ſmall, weak, very quick, and almoſt empty. What is the ſtate of their intellectual faculties, of their paſſions, of their bodily functions, of their powers of voluntary and involuntary motion? All are weak, all feeble, all ſuch, as ſhow, that they have not a third part of vital power to ſupport them. What, on the contrary, is the ſtate of thoſe, who abound in blood, and yet never experience ſuch diſcharges? They are ſtrong and full of vigour in all their functions, have a ruddy countenance, ſparkling eyes, ſtrong, hard, and moderately frequent pulſe. Their appetite for food is keen, the quantity they take

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take is large and well digeſted. Such perſons may experience droppings of blood of no conſequence, and yet not often; but they will have no diſcharges of blood. And it is in perfect conſiſtency with all that has been ſaid, to add, that the various forms of ſtrong liquor, particularly ſpirits, are ſurpriſingly efficacious in diſcharges of blood, in ſpite of contrary prejudices: But the preparations of opium (*m*) and the other diffuſible ſtimuli are

(*m*) Opium, though much uſed in the cure of certain ſymptoms of diſeaſes, was never underſtood by thoſe phyſicians, who, in books and lectures aſſumed to themſelves the province of directing the profeſſion of phyſic. Every property they aſſigned to it was the reverſe of the truth. Inſtead of allowing it to be the ſtrongeſt ſtimulant in nature, they made it a ſedative; and, though they found great difficulty in finding a ſingle ſedative more, to help to make out their catalogue of a claſs of ſuch bodies in nature, they were confident that it was one (ſee above, CCXXX. and the notes). Another property they aſcribed to it was that of bringing on ſleep; whereas, it is the moſt powerful body of all others in producing and keeping up the watching ſtate (ſee above, XXX. XXXI. note (*f*). They alſo aſſigned it the virtue of allaying pain; but there is a kind of pain, that it increaſes, and, beſides that, aggravates every other ſymptom of the diſeaſe. They never could deny, that opium was

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are ſtill more efficacious. This proves to a demonſtration, that in diſcharges of blood there

was exceedingly improper in inflammatory diſeaſes, that is, the ſeveral ſthenic diſeaſes with affection of a part whether inflammatory or catarrhal. And wherever they found it of ſervice in pain, they might have perceived, that ſuch pain was different from what they called inflammatory, or our general ſthenic pain. The truth is; it is not a palliative of pain, but a remover of its cauſe, as often as that depends upon debility, while it as certainly aggravates every other. The pains, that opium is calculated to remove, are all theſe, that depend upon general aſthenic affection, as thoſe of the gout, of chronic rheumatiſm, that of the gangrenous, as well as the putrid, ſore throat, all ſpaſmodic and convulſive pains, all pains from pure debility, as in the legs, ankles and ſoles, or in any part of the ſkin, nineteen head-achs out of twenty, which are in that proportion aſthenic; the pain of any deep-ſeated ſore or gunſhot wound after every degree of ſthenic diatheſis is removed from the habit. It is an equal remedy againſt the aſthenic inflammation whether local or general, as preventing their tendency to mortification and ſphacelus. Nay, when theſe latter ſtates have come on, it is a moſt powerful means of removing them, and of correcting the degeneracy; for the effecting of which the bark had ſo often failed. All this is the diſcovery of the author of the Elementa, though the credit of the laſt and ſmalleſt part of it, from their ignorance of the high merit of the whole, they have ſhown a diſpoſition to give another, a

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there is no exceſſive activity, no hemorrhagic effort as it is called, but on the contrary, that there is a falling off of the natural moving force. Hemorrhages, then, which have been the ſubject of ſo much falſe explanation and falſe denomination, ſhould be rejected from the number of ſthenic, and transferred to the aſthenic diſeaſes, under the title of *Hæmorrhœæ.*

CCXXXIII. If any perſon be ſeized with a cough at firſt rather dry and bound, then more moiſt and free, and afterwards accompanied with large expectoration; if the hoarſeneſs at firſt is deep, and afterwards ſlighter, in proportion as the cough becomes more and more moiſt; if the cheſt all round, over the whole region of the lungs, is diſtreſſed with a degree of diffuſive pain; if there is either no vomiting, or vomiting occaſioned only by a cough with expectoration, and without any ſpontaneous tendency to re-

gentleman and eminent author in London. But a treatiſe on the gout, with a full account of all the virtues of opium, will ſoon be preſented to the public, in which all this will be cleared up. Bleſſed as opium in all theſe caſes is, it it equally bad in all ſthenic ones.

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turn; if the ſtrength is otherwiſe good, and the pulſe ſtrong, full, more or leſs hard, and not much exceeding the frequency of a healthy pulſe: his caſe will be found to be ſthenic, and to depend upon heat and ſtimuli. It is to be cured by cold and debilitating remedies *(n)*. The cauſe of theſe ſymptoms is a high degree of ſthenic diatheſis over the whole body, higher on the external ſurface of the body, and eſpecially in the throat, which is a part of that ſurface. Theſe ſymptoms, in whatever caſe they occur, are to be explained in the ſame manner. Conſequently, the catarrhal ſymptoms, which are eſſential to meaſles, admit preciſely of the ſame inference; and, as well as the whole diſeaſe, are to be underſtood to ariſe from exceſſive excitement, and to be curable by the debilitating plan. The ſame judgment is to be formed of the influenza. In all which caſes

(*n*) See CXVII. CXXVIII. CXXXIV. and all the debilitating powers throughout the whole chapter; while all the ſtimulant ones in it will be found to be ſuch as contribute according to their degree of ſtimulus towards the production of the morbid effect, which makes our preſent ſubject.

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it is eaſy to aſcertain the truth. Give a glaſs of wine or brandy or a little opium; the hoarſeneſs will increaſe, the cough will grow harder and more bound, the expectoration will ſuffer a temporary ſuppreſſion. Give a large draught of cold water, and all the ſymptoms will be relieved. It often happens that a perſon troubled with a cough ſhall ſit down to drink wine, and be freed from his cough in the courſe of the circulation of the glaſs (*o*). The reaſon is, that aſthenic diatheſis was the cauſe of the cough; which diatheſis the wine removed or changed into a temporary ſthenic diatheſis. Often at the end of a debauch in drinking, this kind of cough will return with great violence, becauſe the ſthenic diatheſis by this time has made conſiderable advances. It may then be cured by drinking a tumbler or two of cold water, and relin-

(*o*) Whenever his cough is cured he ſhould ſtop; as the carrying the ſtimulus too far will endanger the return of the cough from a very oppoſite cauſe. The cough at firſt, ſuppoſe, to be from an excitement as 26; its cure to be brought about by an excitement at or above 40; the return to an excitement at or above 60 will bring on a ſthenic cough.

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quiſhing wine: that is to ſay, by checking the exceſs of excitement.

CCXXXIV. From this account it appears, that certain ſymptoms, commonly ſuppoſed to be the ſame, are however of a diametrically oppoſite nature *(p)*; as will be further

(p) This miſtake of ſymptoms in conſequence of judging of their interiour nature from the ſimilarity or diſſimilarity of their appearance is the falſe idea, upon which the whole fabric of a department, lately introduced into the art of medicine, has been reared. It is to be obſerved, that ſymptoms the moſt ſimilar to each other in their appearance are, in reality, the moſt different, and thoſe, that have the leaſt reſemblance in their appearance, have the neareſt affinity in their interiour nature, and indeed are one and the ſame, with no other difference, but a difference of degree, and even that often very ſlight, ſometimes next to none at all. The great variety of ſymptoms that diſtinguiſh the whole form of aſthenic diſeaſes affords as many proofs of the truth of this propoſition, as the inſtances of diſſimilarity or difference in opinion are numerous. What can be ſeemingly more oppoſite than diarrhœa and colic, than typhomania and coma, than epilepſy and general dropſy, than the cold and hot fit of agues, than ſpaſmodic and convulſive affections compared with thoſe in which there is no fault in the motions either as to exceſs or regularity, than the ſeveral degrees of morbid diminution of menſtruation down to the actual ſuppreſſion,

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further evinced by a fuller explanation. If, therefore, any one has a violent cough, and great

sion, and the ſeveral degrees of the morbid increaſe of that natural diſcharge till its flow, at laſt, attains its ultimate exceſs both in degree and duration? And, with reſpect to febrile and non-febrile diſeaſes, what can be more ſimilar than a ſlight ſynocha or inflammatory fever and a typhus in the ſame degree, which, yet, are diametrically oppoſite both in their cauſe and cure? What can be more diſſimilar than the various phenomena of fevers of the intermittent kind, through all their degrees of intermitting and remitting, and thoſe of the more continued kind? And yet they all ariſe from cauſes highly debilitating, and are effectually removed by remedies equal in their degree of ſtimulus. In one word, to ſhow the inſignificancy of the diſtinction of diſeaſes into febrile and non-febrile, and, when the degree of debility conſtituting the cauſe in both, is conſidered and compared; is there any reaſon for ſeparating the high dropſy, the high dyſentery, and ſinking cholera from their place betwixt intermittent and remittent fevers and the moſt continued kind? Laſtly, what two things can be more like one another, than a crowded diſtinct and confluent ſmallpox; or than the common inflammatory ſore throat, and that which was lately deſcribed (ſee above, par. CCXII.) Such have been the ideas, that have guided the directors of the art of medicine in their inquiries into the natures, cauſes and cures of diſeaſes. If botaniſts and natural hiſtorians, by all their artificial methods of ar-

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great expectoration, at firſt with hoarſeneſs, and afterwards, through the whole courſe of the diſeaſe, without hoarſeneſs; if he is of a very advanced age, or arrived at the laſt ſtage of life; if he is of a weak habit; if his pulſe is neither ſtrong nor full, but very quick; if this concourſe of ſymptoms has been preceded either by direct or indirect debility, as uſually happens in the caſe of abſtemiouſneſs and water-drinking, on the one hand, or of a long courſe of ebriety, and a life of luxury, on the other; you may be certain, that all theſe ſymptoms are aſthenic, and that they may be removed by ſtimulant remedies.

CCXXXV. The explanation of the dry cough is eaſy, and indeed the ſame as that

rangement, have made little progreſs in exploring the true nature of their ſubject, and on the contrary, with ſcarce a ſingle exception, have confounded it; if it was ridiculous to unite into one genus a man, a monkey, and a bat, how much more abſurd was the attempt to arrange the mere qualities of matter in the ſame way. Yet upon this hopeful employment has John Bull expended vaſt ſums of money, while he left the moſt ſolid and important departments of ſcience neglected and covered by the dirt under his feet. We have too little uſeful ſcience yet, it is time to improve our ſcanty ſtore (ſee the Introduction to Obſervations, &c.).

cough

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before given (CLX.). The origin of the cough and of the expectoration is juſt the reverſe (CXXVIII. CLXI. and particularly CXXXIV.) For whether the ſyſtem has been weakened directly or indirectly, as the excitement over the whole body is extremely diminiſhed, and the debility in every part is exquiſite; the tone, and in proportion the denſity, will be every where diminiſhed in the vaſcular ſyſtem. The diminution chiefly takes place in the terminations of the arteries, that are moſt remote from the centre of activity, and above all other parts of the vaſcular ſyſtem, in the perſpiratory veſſels (LIX. LX. LXI.). When all this has happened, the quantity of fluid thrown up by expectoration is incredible. Indeed, though it has never been attended to, it is not inferiour to the greateſt profuſion that ever takes place in conſumption, and even exceeds it.

CCXXXVI. The cure, however, in all the caſes that depend upon direct debility, is by no means difficult (*q*), unleſs the diſeaſe has

(*q*) I have experienced ſuch a caſe more than once, and have ſeen and treated it in great numbers. It is ſome-

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has proceeded ſo far that life is now approaching to its end. The cure, however, is a good deal more difficult in the caſe of indirect debility, becauſe there is no other expedient

times a part of the concourſe of ſymptoms, that form that aſthenic caſe of diſeaſe, which is commonly called fever. A gentleman, under or about the thirtieth year of his age, had been ten days in a typhus fever, occaſioned by extreme cold, ſucceeding to the debilitating effects left upon his habit by too great moderation in his diet, and, certainly, not a good choice of the different articles of it. To aid the debilitating effects ariſing from theſe, he had experienced all the extremes of heat and fatigue, that fall to a ſoldier's lot, in very warm countries. He was, over and above, of a ſmall ſize, ſlender and emaciated. He had alſo, from his infancy, been affected with a ſhort cough, ſometimes dry, and ſometimes with a little expectoration. During the treatment, he had been more than once bled, though his diſeaſe had uſhered itſelf in by a profuſe diſcharge of blood, which ſuddenly took him as he was on a journey in a cold day of about 44 miles in a carriage. He was vomited, purged, bliſtered prodigiouſly, and clyſtered. The whole force of the old plan of cure was exhauſted upon him, and he ſo exhauſted by it, as to be given up for an incurable of two diſeaſes, a bad fever and rotten lungs. His face was hippocratic, he had the dead rattle, and his cough and expectoration were aſſiduous. By the ſtimulant new plan of cure he was put out of danger in ten days, and ſet upon his feet in as many more.

but

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but ſtimulating, to remove a diſeaſe occaſioned by exceſs of ſtimulant operation (CIII.). Nay, the ſame debility, as ſhall hereafter be ſhown, produces the ſame relaxation both of the bronchia and of the reſt of the body, but it does not always produce conſumption. With this profuſion of expectoration appearing ſometimes in the form of fever, ſometimes in that of gout, the phyſician has often a long ſtruggle with his diffuſible ſtimulants; but he, at laſt, produces a complete reſtoration of health, and thereby leaves not the leaſt ſuſpicion of local affection in the lungs, which is ſo much the object both of the faith and fear of phyſicians (*r*).

I. When

(*r*) A deſcription of this diſeaſe, in which the lungs are ſuppoſed to be affected with ulcers or tubercles, has been given in the note under this paragraph at (*q*). But, as the ſubject is both as new and intereſting as any in this work, it may be proper to give a further illuſtration of it by the expoſition of another ſet of facts. Both in perſons liable to the gout, and other aſthenic diſeaſes, ſometimes of direct, and at other times of indirect debility, and eſpecially in thoſe who have been much expoſed to cold, without the debilitating effect of the cold being overcome (CXXII.) by an alternation with, or ſucceſſion of, heat, and in very many old people, eſpe-

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I. When the fluids are not sufficiently agitated, they are proportionally more imperfectly

cially among the poorer sort, who have been, and naturally are, much exposed to various debilitating powers, there is often, especially in winter, a very great cough and expectoration. This sometimes goes to such a height as to give suspicion of the affection of the lungs just now spoken of. But the completeness of its cure, which, when it arises from indirect debility, is effected by the use of animal food, avoiding vegetable and fish, and by good wine and diluted spirits in moderate proportion at a time, but frequently repeated, avoiding claret and other french wines and all sour and all beer-drink, unless perhaps a little warm porter in cold weather, and a very moderate use of diffusible stimuli, keeping the feet and the body in general moderately warm; shows sufficiently, that there had been no local affection in the lungs. When the debility of the disease is of the indirect kind, in which the cure is more difficult, there is, still, as little reason to be apprehensive of the pulmonary or any other local affection. For the cure of it also proves the contrary. In it the means of cure are to change the forms of stimulus, and to proceed from the use of the stronger to that of the weaker, till at length the patient can do without much of the very strong ones. (See above, par XCIX. and those that follow). When the disease cannot be overcome in that way, the excitability must be understood to be worn out, and life come to its end; but still from general debility, not local disease. For, if ever any

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fectly mixed, and therefore in a vitiated ſtate. But in the terminations of the veſſels, which are at a greater diſtance from the centre of motion, they often ſtagnate, and undergo ſome change. This effect is not produced by heat only (CXV.), but by cold alſo (XVII,), and by all the powers that debilitate in an equal degree.

local affection does appear, it is always the laſt effect, not the primary cauſe. In this way I loſt two gentlemen, after having been able to ſupport them for many weeks, when the prognoſis upon the common practice did not allow them as many hours. The cauſe of their indirect debility had been hard drinking. But even in thoſe, who die of a confirmed conſumption, there is not often reaſon for the ſuſpicion of tubercles in the lungs. Their bodies have been opened after death, and the lungs found quite ſound. And in the diſſections, where the tubercles have been found, ſtill they were only an effect.

CHAP.

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CHAP. VII.

Of ſleep and wakefulneſs, ſalutary and morbid —Sleep from leſſened excitement—Ordinary ſtimuli produce ſleep by gradually exhauſting the excitability—Morbid ſleep from direct and indirect debility—Healthy wakefulneſs how the effect of ſtimuli—Inſtances of morbid ſleep—How ſtimulants cure both morbid ſleep and watchfulneſs—No ſpecific ſoporific virtue in opium—In what circumſtances it induces ſleep—Sleepineſs attending affections of the alimentary canal—Good ſleep, what.

CCXXXVII. AS death cloſes all the labours of life, ſo ſleep cloſes thoſe of every day: and, as the former is the conſequence of a perfect extinction of the excitement, either from a complete exhauſtion or extreme abundance of excitability; ſo the latter ſucceeds a diminution of excitement, during which the excitability is either, 1. only ſo far diminiſhed that it can be accumulated again; or,

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or, 2. ſo abundant, that the exceſs can be waſted; and, in each caſe, the excitement reſtored.

CCXXXVIII. Such is the nature of the excitability of animals, that it can neither be deficient nor over-abundant, without detriment; a deficiency producing indirect, and a ſuper-abundance, direct debility. And, as any exciting power, carried beyond its boundary, (XXVIII.) produces the former, and the with-holding of any gives occaſion to the latter; the ſame propoſition holds good of the exceſſive or too ſparing uſe of any of them, or of all (*a*). Sleep, then, is the effect of our actions during the day, at firſt giving always more and more excitement, afterwards leſs and leſs, in proportion to the continuance of their operation, but ſo as always to afford ſome excitement, till the perſon arrives at that ſtate, where the degree of excitement, neceſſary to the waking ſtate, no

(*a*) This is completely illuſtrated through the whole firſt chapter of the ſecond part, from par. CXI. to par. CXLVII. incluſive. Nay, the propoſition is conſtantly alluded to through the whole that has yet been ſaid, and will be in what remains to be ſaid.

longer

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longer exiſts. Of this we have the moſt certain proof in every day's experience, and in the common effect of all the exciting powers to produce ſleep *(b)*.

Thus,

(*b*) To illuſtrate this, let us take the exciting powers one by one, and begin with wine. When a perſon is inſufficiently excited with reſpect to that ſtimulus, and riſes not, ſuppoſe, above 30° in his excitement, a glaſs carries him up 2°, another 2° more, and ſo forth, till after five glaſſes, and their effect in carrying him up to 40°, he finds himſelf well and vigorous in all his functions. But, ſtill, we are not ſo ſlimſily made, as not to bear a little of what is either too much or too little. Suppoſe him then to take five glaſſes more, and, conſequently, to be raiſed to 50°, or 10° above the ſtandard. As his ſpirits, his intellectual, and all his other, functions, were low, while his excitement remained below 40°, ſo they are all proportionally exalted by the time that his excitement is elevated to 50°. Let him ſtill go on, and his intellectual function will riſe ſtill higher; he will now diſplay the full extent of his genius; his paſſions and emotions, of whatever kind, will riſe in the ſame proportion; he will, in one word, be an example of the effects of Alexander's feaſt. Suppoſe, to bring him to all this, he has ſwallowed, beſides thoſe he had before, other five glaſſes. Let him go on, till he has taken five glaſſes more, and we ſhall ſee the effect: In the courſe of time, employed in taking theſe, he gradually falls off in his ſpirits, in his intellectual, and in his

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Thus, a certain degree of heat, food, drink, labour either of body or mind, and paſſion and

his corporeal functions; his tongue, his feet, his eyes, his memory, his judgment, all fail him; he, at laſt, becomes drowſy, and then falls faſt aſleep. The ſame is the progreſs of excitement as it ariſes from labour or exerciſe through the day, whether of mind or body. The ſame is the effect of the ſtimulus of eating, eſpecially nouriſhing ſtimulant things, and in great plenty. Before dinner, the occupations of the former part of the day are not yet ſufficient to prepare one for ſleep; which, however, after a heavy dinner, will, unleſs the interference of ſome other ſtimulus prevent it, very readily happen to moſt people, eſpecially to thoſe, whoſe frailty, from age or any other cauſe, renders them more liable to be fatigued by the paſt operations of the day than others. The younger and more vigorous will be able to hold out to the end of the day; when they too, after having undergone the degree of ſtimulus neceſſary to give that waſte of excitability that diſpoſes to ſleep, will be overcome by it. The very flow of the blood in the veſſels, and the exerciſe of the involuntary motions, that keep it up, tend at laſt to the ſame effect. The ſame thing applies to the motion conſtantly going on in the ſtomach and inteſtines, as well as the motions that occur in all the ſecretory and excretory ſmall veſſels. Light, ſtimulating the eyes, and ſound, the ears, and the ſeveral ſubſtances that act upon the organs of the other three ſenſes, all tend, by waſting the excitability, to wear down the excitement to that point in the

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and emotion, when their ſtimulus neither ſtops ſhort of the proper point, nor goes beyond it, all give a diſpoſition to ſleep. This is the moſt ſalutary ſleep.

K. Premature, unſeaſonable, or morbid ſleep, is produced by either indirect or direct debility.

A. With reſpect to the former, an exceſſive operation of any one or more of the ſtimuli produces it; accordingly, any one or more of thoſe above mentioned, by acting in exceſs, and waſting the excitability, ſuch as hurried drinking, produce that effect.

M. Of the directly debilitating powers, which produce the ſame effect, the want, or ſparing application, of the powers, which, by a due degree of ſtimulus, induce ſleep, will induce a bad kind of it; accordingly, when a perſon wants excitement in order to be in

ſcale where ſleep commences. And the proceſs, in every caſe, is, firſt a low, then a higher and higher, then the higheſt, vigour of all the functions; which, again, gradually falls till its termination in ſleep. We have, therefore, after viewing their effects ſingly, to ſuppoſe them, in one degree or another, united, and ſleep the finiſhing effect of their united operation.

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health, the defect of light, of ſound, and of the bodies that excite the other ſenſes, the defect of both ſets of motions, the voluntary and involuntary, as well as of the exerciſe of the mind, of paſſion, of heat, acting in its ſtimulant degree, and too long continued ſleep itſelf, all theſe produce hurtful ſleep *(c)*.

CCXXXIX. On the contrary, healthy wakefulneſs is the effect of the ſuſpenſion of the diurnal actions during the period of ſleep, which takes off more and more excitement, moſt at firſt, and leſs and leſs after, but always adds to the ſum of diminution of excitement, and accumulation of excitability; that is, always continues to take off ſtimulus, till we have the degree of diminiſhed excitement, and increaſed excitability neceſſary to the watching

(*c*) Coma, or an inſuperable diſpoſition to ſleep, is moſt commonly owing to the want of moſt of the ſtimuli mentioned in the text, as thoſe of food, of wine, at leaſt in the ordinary practice of cure, of good animal ſpirits, of the power of thinking in a pleaſant exciting train, of a due quantity of blood in the veſſels, of pure open air, of corporeal exerciſe, and of the abſence of certain ſtimuli, that otherwiſe irritate in the weakened ſtate, and produce watchfulneſs.

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ſtate. In this way does ſleep prepare the ſyſtem for the waking ſtate; which is afterwards kept up, for the due length of time, by the ſeveral exciting powers, acting through the day, till at laſt, by a certain failure of their effect, ſleep is produced again.

N. Too long or morbid watching is alſo brought on in two ways; by indirect and by direct debility. Thus, intenſe thinking, violence of paſſion, exceſſive labour, unuſual and highly relaxing heat, debauch in eating and drinking, great exceſs in the uſe of the diffuſible ſtimuli, great abundance and velocity of blood; all, or any of theſe, bringing on indirect debility by an exceſs in their operation, are notorious for their effect in repelling ſleep. Again, cold, not in that extreme degree which immediately precedes death; abſtinence from food, or the uſe of food not ſufficiently nouriſhing, or not ſufficient to produce the requiſite indirect ſtimulus; weak liquids, as tea or coffee, eſpecially when a perſon has been accuſtomed to ſtronger; intermiſſion of the uſual exerciſe, whether of body or mind; ſhame, fear, and grief; all theſe, by their operation not ſufficiently

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ficiently approaching to indirect debility, produce an undue or morbid ſtate of watchfulneſs.

CCXL. As debility, therefore, whether indirect or direct, or both conjoined, produce ſleep, the firſt ſound ſleep, the two latter an improper or morbid kind; ſo an exceſs of debility, whether indirect or direct, is alſo a cauſe of improper or morbid vigilance. The only healthy ſleep is that which is produced by a proper degree of excitement, occaſioned by a proper action of the exciting powers upon the excitability; all the extremes of exceſſive ſleep, or exceſſive vigilance, are either ſo many tendencies to diſeaſe, or actual diſeaſe (*d*).

A perſon

(*d*) Too much, or too long continued, ſleep, is hurtful, becauſe it implies a ſuſpenſion of that excitement, to which proper health and due vigour is owing: it is, conſequently, a ſtate of direct debility. Too little ſleep, or of too ſhort duration, is of equal detriment, as implying a degree of excitability, not ſufficiently accumulated to receive a ſufficient impreſſion from a renewal of the exciting powers. From the former ariſe moſt of the complaints of the rich and indolent; from the latter, many of the diſeaſes of the poor and laborious. As the

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A perſon, fatigued with his uſual exerciſe, is immediately compoſed to ſleep; which, equally, flies from him who has had either leſs, or more, than that middle degree (*e*).

CCXLI.

action of the exciting powers ſhould be adapted to the ſtrength, a little indulgence in ſleep is the ſafeſt extreme to the weak, as in the caſe of children, and perſons labouring under debility.

(*e*) When a boy, I valued myſelf much for enduring the fatigue of walking: About the fifteenth year of my age I walked, in a ſummer day, from Berwick on Tweed to Morpeth, which, with two miles wandering out of the high road, I found to be a journey of fifty miles. But I got not a wink of ſleep the whole night, from the exceſs of the exertion; and the next day, ſo pained and enfeebled were all my joints, that it was with the utmoſt difficulty I made out the ſingle ſtage from Morpeth to Newcaſtle, which was only a walk of fourteen miles. Some years after that, when I was now arrived at my full ſtrength, and my joints perfectly knit, I walked and wandered in all ſorts of ground, in roads and out of them, over ſmooth and plain, and heathy and mountainous tracts, from four o'clock P. M. to two a clock, P. M. next day, with only an hour's reſt, and one hearty meal at betwixt ten and eleven o'clock in the forenoon, when I was now within ſix miles of my deſtination. The hills over which I wandered in the courſe of the night are thoſe called Lammer-muir, ſituated betwixt Eaſt Lothian and the Mers: the places I travelled between in

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CCXLI. As the effect of both indirect and direct debility is ſometimes ſleep, ſometimes watching, both of them unhealthy, both hurtful: ſo the cauſe of morbid ſleep is either ſort of debility, when no ſtimulus acts upon the weakened ſyſtem ſo as to throw it into a ſtate of agitation: and debility of either kind, accompanied by ſuch a ſtimulus, produces morbid watching; in which caſe ſome ſmall ſtimulus acts as an irritating power *(f)*.

N. Inſtances

in this rout were Edinburgh and Duns, the place of the nativity of the celebrated ſchoolman and metaphyſician, John Duns Scotus, and that of my grammar education. In this great exertion I was ſuſtained by a great ſtimulus, high animal ſpirits, and love. At the end of my journey, and finding myſelf among my friends, and with the object of my affection, I had vigour enough to dance with the latter. This time I ſlept well, and was perfectly recruited next day.

(f) Volumes have been filled with the doctrine of irritation as a cauſe of morbid ſtate, and the indications of cure and remedies to remove it have been equally tedious and laboured. In ſthenic diſeaſes, phlogiſtic diatheſis, inſtead of plethora and vigour (for the belief in which two laſt there might have been ſome foundation in that form of diſeaſes, (ſee above from CXXXI. to CXXXIV.) has been the univerſal pathology; and bleedings, other evacuations, and cold, the univerſal idea, or, as it is called,

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N. Inſtances of morbid ſleep occur in the prediſpoſitions to diſeaſes, and in the actual diſeaſes, that depend upon ſthenic diatheſis, and in the ordinary ſtate of intoxication from drinking. But all the exciting powers, when noxious from exceſſive ſtimulus, each in proportion to its degree of exceſs, have the ſame tendency (*g*). But, when the exciting power proceeds

indication of cure; and while they thought of no other method or means of cure for the aſthenic form of diſeaſes, the pathology, applied to them, was plethora with vigour or with mobility in other caſes, and, in the febrile, irritation. By irritation they explained the ſtartings of the tendons, the reſtleſſneſs, the frequency of the pulſe, typhomania or conſtant working, of ſo frequent occurrence and ſo noted a ſymptom in thoſe diſeaſes. But as we have proved, that the reverſe of plethora and vigour is the true ſtate of the ſyſtem in every diſeaſe of debility; ſo we aſſert with the ſame ſolidity of argument, and the ſame weight of proof, that irritation, conſidered, either as the cauſe of morbid watchfulneſs or of any other ſymptom, is nothing that requires either evacuant, or any other debilitating remedies, to remove it. It is merely a weakened ſtate of the ſyſtem, thrown into flutterings from the ſlighteſt exertion of the ordinary functions, as when a perſon falls into tremors from noiſe, or into a ſweat from walking a ſtep or two.

(*g*) A heavy dinner, exceſſive fatigue from either corporeal

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proceeds beyond the ſleep-inviting point; or when any ſtimulus, ſtill finding unwaſted excitability to act upon, continues to act; in that caſe the watching will be continued with bad effect, as in the harrowing watchfulneſs, which is liable to accompany the phlegmaſiæ.

CCXLII. Inſtances of morbid ſleep occur in all the diſeaſes of indirect debility, and in pains that have advanced to the ſame degree of exhauſted excitability in the ſcale (*b*); as in

poreal or mental labour, a high fit of paſſion, and heat, are, each of them, noted for giving a diſpoſition to ſleep; which is an effect, ariſing from their high degree of ſtimulus, hurrying the excitement to that degree of waſte in which the ſleep-inviting points conſiſts; and it will the more readily take place, that no exciting power, by ſtill finding excitability to act upon, continues, therefore, to act, and prevent the ſleep.

(*b*) This happens in the phlegmaſiæ, where the effect, not only of the inflammatory pain, but of the whole diatheſis, and of every other ſymptom, as well as that of pain, is to run up into indirect debility. The laſt part of debility, that uſhers in a fit of the gout, is commonly of the direct kind; but the effect of the continuance of the pain is often ſleep, the origin of which is indirect debility, its conſequence an increaſe of the diſeaſe, and

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in the ſeveral caſes of phlegmaſia, that ariſe from the violent progreſs of the morbid ſtate, or the improper adminiſtration of ſtimulants for the cure; which is particularly exemplified in the dropſy of the breaſt, that often ariſes from peripneumony under ſuch management. With reſpect to ſleep from direct debility, women, who have had many children, who have often ſuckled, as well as all lazy perſons, and thoſe, of both ſexes, who are addicted to luxury, and whoſe cuſtom it is to ſleep too much, are all liable to this ſort of morbid ſleep.

CCXLIII. When either direct or indirect debility produces ſleep without refreſhment (*i*), or a turbulent waking ſtate, as the debility exceeds that in which ſound ſleep conſiſts; the uſe in both theſe caſes of a ſtimu-

its remedy an interruption of the morbid ſleep for the purpoſe of adminiſtering ſuch diffuſible, and other, ſtimuli, as have the effect of removing the debility which occaſions both the ſleep, and other ſymptoms of the diſeaſe.

(*i*) Which often happens in fevers and many other caſes of debility, beſides thoſe mentioned in the text (CCXLII.), and ought never to be encouraged, but repelled by every means of exciting the patient.

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lus capable of repelling the former, and converting the latter into ſleep, will remove the complaints, and ſerve for an illuſtration of the nature of both (*k*). In aſthenic diſeaſes

(*k*) Let the point of indirect debility, in which ſleep conſiſts, be as 15 degrees in a particular ſcale, and the greater debility, than that which either conſtitutes morbid ſleep or morbid watching, be 20 degrees or upwards in the caſe of its being indirect, or 10 or downward in the caſe of its being direct debility. It is evident, that, to bring on ſalutary watching on the one hand, or ſalutary ſleep on the other, or to convert both into ſalutary ſleep, if that be required by the circumſtances, the deficient degree of ſtimulus muſt be adminiſtered; that is five degrees to bring up the excitement from 10 to 15 degrees, and as many for the purpoſe of renewing the worn out excitement by means of a new exciting power which may ſtill find a portion of excitability to act upon, or to remove certain ſtimuli, which, however ſlight and mild, are fatiguing and diſturbing to the ſyſtem in its weakened ſtate. Accordingly in fever, when the patient, amidſt every ſort of directly debilitating powers, had, beſides, wanted ſleep for ten days, a ſmall portion of an opiate given him every quarter of an hour, in 3 hours time laid him aſleep, which, in ſpite of an urgent cough and profuſe expectoration, laſted for 16 hours, and was followed by the moſt ſurpriſing relief. The continuance of this practice, with only an increaſe of the doſes in proportion as the abundant excitability was gradually

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eaſes the watching ſtate for the moſt part is the conſequence of direct debility, with ſome power

worn off, and alternating them with wine and beef ſoup, in ten days removed all danger. A child of three months had had no ſound ſleep for ten days, but had cried night and day from a complaint in his belly, which the ordinary practitioners would have called an obſtruction in the meſenteric glands. A large doſe of the tinctura thebaica, for the patients age, was adminiſtered, which laid him in a profound ſleep, that continued near 36 hours, and at once removed the diſeaſe. Numberleſs are the caſes of a kind ſimilar to this, where the morbid watchfulneſs was partly from direct, partly from indirect debility, that have been conſtantly removed by the ſame practice. A child of 7 years of age, in a fever of great direct debility in conſequence of a moſt rapid growth happening during the diſeaſe, which was not completely removed till near the end of ſeven weeks, after having been under the diſeaſe near a fortnight, was effected with the moſt conſtant diſpoſition to ſleep, ſo ſound that no noiſe or ſhaking of his body could waken him. The adminiſtration of the opiate repeated in ſmall doſes till the effect took place, kept him awake. Some time after, in the courſe of the ſame lingering diſeaſe, when he had not yet acquired any permanent ſtrength, but was only better ſupported by the diffuſible and other ſtimuli, than he had been till I was called in, his predominant ſymptom came to be great watchfulneſs, which was partly the effect of a certain, though not a great degree

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power acting by a ſlight ſtimulant effect; the reaſon that the diſeaſe depends upon more debility than that which conſtitutes ſleep.—Hence every thing that ſtimulates, every thing that raiſes the excitement as it were to that point, which compoſes the ſyſtem to ſleep, produces that effect by a ſtimulant, not a ſedative, virtue. In a ſmall degree of debility, where the excitement has fallen only a little below the point of ſleep, a very ſmall degree of ſtimulus is ſufficient: ſuch as a little animal food where

degree of excitement that the tincture and other cordial powers had given him. It, however, induced too great a degree of indirectly debilitating exertion for his ſtill very weak ſtate, and it, therefore became neceſſary to give him an addition of excitement to bring him to the ſtate of ſalutary and recruiting ſleep, and thereby to ſuſpend the action of a number of exiting powers, however ſlight their operation was, which were too much for the enfeebled ſtate of his ſyſtem. In the caſes of children, whoſe diſeaſes are almoſt all aſthenic, and in other diſeaſes of high debility, the inſtances of ſuch effects of the diffuſible ſtimuli, (for more than one was employed upon this as well as many other occaſions) are equally numerous and ſurpriſing. In a very large practice I am ſure I never, in the very worſt caſes, loſt three patients.

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the weakneſs is owing to vegetable food; wine, or any liquor of equal power, after a water regimen; conſolation under affliction of mind; heat, when cold has been the debilitating power; gentle exerciſe or geſtation, or the ſtimulus of a pleaſant train of thought, when the patient has been deprived of the ſtimulus of corporeal or mental exerciſe. In a higher degree of debility (for the curative power ſhould always be adapted to the degree of the diſeaſe) either a proportionally higher degree of the ſtimuli which have been mentioned, or ſome more powerful one, ſuch as thoſe, which are called diffuſible, ſhould be employed.

CCXLIV. In both theſe caſes, the virtue of opium is great; its virtue, however, is not peculiar, or any other than what it poſſeſſes in common with all the other ſtimulant powers, from which it differs only in the higher degree of its (*l*) virtue. Thus in great debility as

(*l*) The notion of ſome powerful remedies, as opium, mercury, the Jeſuits' bark, &c. acting by an operation peculiar to each, and different from every other power in nature, was long prevalent in the ſchools of medicine. Thoſe

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as in fevers, or a violent fit of the gout, where there is much internal commotion, and in other ſimilar diſeaſes of debility, in which the violence of the diſeaſe keeps off ſleep; opium, after the watchful ſtate has remained many days, will often bring on profound and ſound ſleep: Here, as the excitability is much accumulated, and as very weak ſtimulants only are admiſſible, we ſhould begin with the weakeſt

Thoſe they called *ſpecifics*; an idea, which, like many other of their vague conceptions, was altogether contrary to ſound philoſophy; ſince the more careful our inquiries into nature's operations are, the more and more reaſon have we to be convinced, that ſimplicity and uniformity pervade the whole phenomena of the univerſe. Accordingly, in the exciting powers that act upon the excitability of our bodies, we find only one action, that of ſtimulating, varying only in its degree, to take place in all animal as well as vegetable bodies, nay in every thing that we know to poſſeſs life in the univerſe. We alſo find, to the ſame extent, only one property in living ſyſtems upon which it acts, that is, the excitability; and one effect produced by the mutual relation betwixt them in that reſpect, to wit, the excitement. Inſtead of the diſtracted notion of vortices, or atmoſpheres in rapid motion, governing the motion of the planets, ſir Iſaac Newton found the whole planetary ſyſtems of the univerſe governed in their motions by one ſingle principle.

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weakeſt and gradually increaſe them, till we arrive at the point of ſleep, which will ſoon happen, as it is placed much within the range of direct debility. With reſpect to coma, or that ſleep which is not refreſhing; ſuch is the effect both of other diffuſible ſtimuli and of opium, that it converts morbid ſleep into vigilance; vigilance, after a certain ſpace of time, into refreſhing ſleep, and thus reſtores the patient ſafely, gently, and pleaſantly, to health. But as the influence of the ſtimulant operation, that ſupports excitement, is of ſuch great importance, and as ſleep of longer duration than proves refreſhing, may ariſe even from proper remedies, the rule to be obſerved is, whenever ſleep, upon account of too long a ſuſpenſion of ſtimulant action, has been of leſs

ciple. Inſtead of the infinite difference of habits and temperaments, I have found every individual preciſely the ſame as every other. Whatever produces the gout in one, will produce it in another, prepared to receive its influence. And whatever cures it in any one, cures it alſo in every other; and ſo forth with reſpect to every other diſeaſe. The deeper we explore the works of nature, the more ſhall we be convinced of this wonderful ſimplicity, ſo that, to a philoſopher, all nature would appear the effect of one ſingle inſtrument in the hand of the all-wiſe all-powerful creator.

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ſervice than was expected, to ſhorten its next period, and renew the operation of ſtimulants.

CCXLV. In aſthenic diſeaſes, from indirect debility, in which ſleep is alſo kept off; in order both to reſtore it, and remove the other ſymptoms, and bring about the healthy ſtate, other ſtimuli ſhould be employed according to the degree of debility, and, when the degree of debility is very conſiderable, the diffuſible ſtimuli, and among the reſt opium.

CCXLVI. Theſe are the times and circumſtances in which opium produces ſleep. In all the other ſtates either of health or diſeaſe, it excites the functions both of body and mind, as well as of paſſion and emotion; ſo as to baniſh ſleep, and produce great activity and vigilance. Thus if any one is ſleepy without an evident cauſe, he will by opium be rendered ſurpriſingly ſprightly, lively, and vigilant; it baniſhes melancholy, begets confidence, converts fear into boldneſs, makes the ſilent eloquent, and daſtards brave. Nobody, in deſperate circumſtances, and ſinking under a diſreliſh for life, ever laid violent hands on himſelf after taking a doſe of opium,

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or ever will. In one word, through all the intermediate degrees of excitement from direct to indirect debility, opium is by far the moſt powerful of all the agents, and as ſuch muſt be the moſt hurtful in ſthenic diatheſis, becauſe, when added to the other ſtimulant powers, it not only baniſhes ſleep, but may ſuddenly induce indirect debility, and even death by exhauſting excitability.

CCXLVII. That the debility, upon which coma depends, is leſs than that which ſupports morbid vigilance, appears from the former being leſs dangerous, and more eaſily removed; yet, when its duration is in any degree conſiderable, or when it reſembles profound ſleep, care ſhould be taken to prevent direct debility; in which caſe recourſe ſhould be had to the different forms of wine and opium, in order to raiſe the excitement to that degree, which repels the ſleepy ſtate, produces more ſtrength, and facilitates the return of health (*m*).

CCLVIII.

(*m*) Phyſicians have had a more favourable idea of coma, or the ſleeping ſtate in fevers, than it merited. Inſtead of deſerving to be looked upon as a poſitively good

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CCLVIII. In the gout, in indigeſtion, of which examples have already been adduced, in diarrhœa and the colic, and many other aſthenic diſeaſes, particularly thoſe that diſturb the alimentary canal, and chiefly affect women exhauſted with frequent child bearing, and long and repeated nurſing; it often happens, that there is a ſtrong propenſity to ſleep, contrary to what happens to the ſame perſons in health, and the period of ſleep is prolonged, without any alleviation of the diſeaſe. The ſame thing happens to thoſe who have fallen into indirect debility from drunkenneſs or any other cauſe. That this propenſity to ſleep depends either upon direct or indirect debility is evident, for whatever produces further debility increaſes the diſeaſe, and every thing

good ſign, inſuring a ſafe return of the diſeaſe, as it was by them, it was at beſt but a negative mark, implying that the ſlight ſtimuli acting upon the ſyſtem in a ſtate of high debility, and, therefore, by their operation, ſlight as it was, increaſing the direct debility by the addition of the indirect to it, were kept off and hindered from producing that hurtful effect. Their authority in giving that judgment of it is overthrown by their extreme ignorance of its nature.

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that ſtrengthens, removes it. Strong liquors, and the preparations of opium, are peculiarly effectual, and that in proportion to their greater and more diffuſible ſtimulant power.

CCXLIX. Thus ſleep and wakefulneſs may be either induced or obviated by certain degrees of ſtimulation. The removal of morbid affection without inordinate motion by a ſtimulant power equal to that which is required to cure ſpaſms and convulſions or to reduce the quick pulſe in fevers, is an analogous circumſtance. Upon the whole, it is plain, not only that irregular motions are not increaſed functions, depending upon increaſed excitement, but that they are impaired functions, and depend nearly on an equal degree of debility.

CCL. From what has been ſaid, the analogy between wakefulneſs and life, ſleep and death, and their dependence upon the ſame laws that govern all the other functions, clearly appears; and ſolid proof has been adduced, that the moſt vigorous wakefulneſs conſiſts in the higheſt degree of healthy excitement; that good profound ſleep depends on the higheſt debility that is conſiſtent with the

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the healthy ſtate; that true ſleep depends on a mean degree of indirect debility, and that both morbid ſleep and morbid watching are the offspring of great debility, whether of the indirect or direct kind.

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CHAP. VIII.

The cure of both the diatheſes—Indication either to diminiſh or increaſe excitement—Powers that cure, differ only in the degree of their action from thoſe that induce, either diatheſis—In the ſthenic, when ſtrong, heat to be avoided—When and how admiſſible—Cold the great remedy in this diatheſis—Never injurious from aſtringency—Heat uſeful in aſthenia—Cold baneful—Produces putrefaction of the fluids—Diet in ſthenic—and aſthenic diatheſis—Bleeding, purging, vomiting to diminiſh fulneſs of veſſels—How to treat inanition—Of bodily and mental exertion—Of the paſſions—Of air—Of contagious diſeaſes—Single leſs effectual than united powers.

CCLI. THE cauſes of both the diatheſes have been formerly (CXLVIII.) aſſigned: whence it appears that the indication of cure, in the ſthenic diatheſis, is to diminiſh exceſſive excitement over the whole ſyſtem; in the aſthenic

aſthenic, to increaſe deficient excitement likewiſe over all the ſyſtem, till it be brought to the healthy degree.

CCLII. The remedies that effect the cure of ſthenic diatheſis, are the powers, which, when their ſtimulant operation is exceſſive, produce that very diatheſis; but which, in effecting a cure, act with ſuch diminiſhed force, as to produce leſs excitement than health requires, or to prove debilitating.

CCLIII. The powers which produce the ſame effect in the aſthenic diatheſis, are thoſe that, when their ſtimulus is too weak, produce that diatheſis. In effecting a cure, they muſt be applied ſo as to produce higher excitement than is conſiſtent with the ſtate of health, or ſo as to ſtimulate.

CCLIV. In the ſthenic diatheſis that temperature (*a*) which is called heat, muſt by all

(*a*) The ſame order is followed here, that has all along been obſerved; to wit, that of the enumeration of the powers in par. XI. and XII. and that of the explanation of them, when viewed as the hurtful powers producing either diatheſis in Chap. I. Part II. and it will be kept to throughout the whole work. Nothing can be more ſimple and natural, and better ſuit the ſimplicity of the

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all means be avoided; becauſe that degree alone of what we from our feelings name *heat*, which proves debilitating, viz. an exceedingly high temperature, cannot be applied without the riſk of pernicious conſequences from the previous exceſs of ſtimulus (*b*).

CCLV. But, when the diatheſis, and its cauſe the increaſed excitement, are moderate,

ſubject, while nothing is more artificial and arbitrary than the arrangements either of ſyſtematics or noſologiſts. Juſt order could never be expected from an erroneous and confuſed view of the ſubject to be treated of; while a clear conception of the ſubject as a whole, infallibly leads to a diſtinct diſtribution of the ſeveral parts that compoſe it; ſo that, what Horace ſays of language, equally applies to order, and the ſame thing applies here as to his *Verba & lucidus ordo. Verbaque proviſam rem non invita ſequentur.*

(*b*) See above, par. CXV. Though very intenſe heat relaxes the ſimple and induces atony on the living ſolids, who, in a peripneumony, would think of uſing it with that view? That diſeaſe, from its own violence, often mounts up ſo high in the ſcale of increaſed ſtimulus, as nearly to approach the point of indirect debility, and it ſometimes actually gains that point. The addition, therefore, of more ſtimulus from the application of heat, would inſure that effect, and thereby occaſion the converſion of the diſeaſe into a much worſe one, ſuch as hydrothorax, or the dropſy of the breaſt.

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though the diſeaſe is fully formed, there is no occaſion for forbidding that degree of heat, which accompanies the operation of ſweating and the pediluvium; becauſe the waſte of fluids in the former, and the agreeable ſenſation in the latter, promiſe ſomewhat more advantage than ſuch a moderate degree of heat threatens diſadvantage.

CCLVI. After the application of intenſe cold, the application of heat muſt be ſtudiouſly avoided, becauſe its operation, from the increaſe of the excitability by cold, becomes more effective. And the conſequence is the more to be dreaded, becauſe, at the ſame time, other ſtimuli are uſually applied.

CCLVII. Cold is the beneficial temperature in the cure of the ſthenic diatheſis, but it muſt not be followed by any conſiderable degree of heat. The miſtake, therefore, in medical practice, of thinking cold hurtful in ſthenic diatheſis by a ſtimulant operation, ſhould be corrected: its uſe in the ſmall-pox is not to be underſtood to ariſe ſo much from its mere debilitating degree, as from avoiding the ſtimulus of heat after its operation. When the ſame precaution is employed, cold

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either alone, or in conjunction with other debilitating powers, has lately been found the moſt effectual remedy for catarrh, or for *a cold*, as it is vulgarly called.

CCLVIII. From which circumſtance, and becauſe a cap of freſh earth put upon the head, has been of ſervice in phrenitis; and becauſe that degree of cold, which attends froſt and ſnow, when applied to the naked body, has removed a ſynocha accompanied with delirium (*c*); and becauſe cold is ſo efficacious

(*c*) It is called the common inflammatory fever, very improperly, as being no fever, but a general pyrexia, or affection of the whole ſyſtem, without inflammation or local affection, and producing heat over all and tumultuous effect upon the pulſe. Its proper generic name is pyrexia. See above, par. LXVIII. where that appellation is aſſigned to it; an appellation to avoid miſtaking its nature, that ſhould be accurately attended to. Great miſchief has been occaſioned by this vague term. Thus when a perſon is ſaid to be affected with a diſeaſe; when it is aſked what diſeaſe it is, and the anſwer given, that it is a fever, immediately bleeding is thought of, though that, and every, evacuation is as hurtful in proper fever as it may be ſerviceable in the pyrexia. To give an example of this pyrexia, the particular appellation for which is ſynocha, or ſthenic pyrexial diſeaſe; many years ago, a perſon in the old town of Edinburgh, labouring

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ficacious a remedy in the ſmall-pox; it clearly follows, that the uſe of cold ſhould be extended to the whole range of prediſpoſition

bouring under it, eſcaped the vigilance of his nurſe; flew naked out of the houſe in a very keen froſt with ſnow upon the ground, acroſs the ſtreets, paſſed over into the new town, and from that to the fields beyond it. He ſoon became ſenſible of his ſtate, ſtole into a houſe next to him, got ſome clothes thrown about him, and was carried home in a chair, perfectly cured of his diſeaſe. From which, and a prodigious number of facts to the ſame purpoſe, all concurring in the proof of the debilitating operation of cold, there can hardly ariſe a doubt in the mind, that in a certain high degree, if it could be conveniently uſed, or if there were occaſion to have recourſe to it for want of efficacious remedies, it would at once remove the higheſt degree of ſthenic ſtate that ever occurs in diſeaſe, and reduce the excitement from the neareſt approach to 70 down to 40. Nay it might run into the oppoſite extreme and go all the way to death. But we ſhall, by and by, have occaſion to obſerve, that we are ſo well provided with effectual remedies as not to be under any temptation of ſtraining this to its height. And we ſhall alſo find that a number of remedies in a moderate degree are preferable to any one, or to a ſmaller number in a higher degree. The diſcovery of the principle upon which the cure of ſthenic diſeaſes turns, has enabled us to render the cure both more complete and exact, than it could have been without principle.

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and the whole circle of diſeaſes, depending upon ſthenic diatheſis.

CCLIX. That no hurtful effect ariſes from the ſuppoſed aſtringent power of cold in the ſthenic diatheſis (*d*), appears from its remarkable effect, when applied to the ſurface of the body in the ſmall-pox, in keeping up freedom of perſpiration in proportion to the degree of its application. Its effect in producing atony with proportional laxity of the fibres of the veſſels, depends upon the ſame principle (*e*).

CCLX. For the removal of aſthenic diatheſis the ſtimulus of heat is ſignally uſeful, and chiefly for the following reaſon; that it muſt be as uſeful in this diatheſis, where the excitement is too low, as it is hurtful in the ſthenic, by increaſing the excitement, al-

(*d*) I remember, when I was a young ſtudent, of hearing the old phyſicians in Edinburgh very gravely forbid a draught of cold water in an inflammatory pyrexia, and even in a common catarrh, for fear it ſhould produce an inflammation in the ſtomach.

(*e*) The fibres being relaxed deſcribe a greater cavity, and hence the check given to the perſpiration by the contrary effect of the ſthenic diatheſis in increaſing their denſity and diminiſhing their diameters, is taken off.

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ready too high. Hence in fevers, in the gout, in dyſpepſia, in the colic, in rheumatalgia, and in all aſthenic diſeaſes, the ſyſtem is very much invigorated by heat, and debilitated by cold: which, by its debilitating effect, is ranked among the powers that produce theſe diſeaſes *(f)*; and in fevers is fatal.

CCLXI. As cold is hurtful in aſthenic diatheſis in the proportion in which it is ſerviceable in the ſthenic; it is accordingly, for a further reaſon, to be avoided in diſeaſes of the higheſt debility, for, like intenſe heat, it relaxes the extreme veſſels, and produces a putrefaction in the fluids. (See CXVII.).

CCLXII. The more certainly to moderate the ſthenic diatheſis while it remains as yet within the limits of prediſpoſition, a ſparing uſe ſhould be made of fleſh and the prepara-

(f) No gouty perſon can bear the operation of much cold, and every one can endure more heat, than moſt other perſons. And the reaſon is evident: So debilitating a power muſt, in proportion to its degree, be peculiarly hurtful in all diſeaſes, in which the debility conſtituting their cauſe, runs high, as it naturally does in the gout, where it is increaſed by the advance of age and other cauſes, and much more ſo in fevers.

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tions from it, and vegetable diet be uſed with greater freedom. But, when this diatheſis is increaſed to the degree, that conſtitutes diſeaſe, abſtinence from animal food, eſpecially in a ſolid form, and a free, but ſtill not exceſſive, uſe of vegetable matter, eſpecially in a fluid form, are the beſt means of removing it, as far as the effect of diet reaches.

CCLXIII. In the degree of this diatheſis, which does not exceed prediſpoſition, it is proper to avoid *ſeaſonings*, which are deſtructive in ſthenic diſeaſes fully formed.

CCLXIV Weak liquids are very uſeful; and all ſpirits and ſtrong liquors hurtful in proportion to the quantity of alkahol they contain. Such liquors, unleſs extremely diluted, are fatal in fully formed ſthenic diſeaſes. In theſe diſeaſes pure water, eſpecially with the addition of ſomething to acidulate it, is preferable to ſmall-beer, which a great authority admitted. But the diffuſible ſtimuli in this diatheſis are above all others hurtful.

CCLXV. Since the indirect ſtimulus of food aſſiſts the direct, that is, propagates itſelf over the whole body, bounds ſhould be ſet to the quantity even of ſuitable food.

CCLXVI.

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CCLXVI. In every degree of aſthenic diatheſis, vegetable food ſhould be avoided, and recourſe be had as ſoon as poſſible to animal matter. But as this can ſeldom be executed immediately upon account of the weakneſs of the ſtomach; the diffuſible ſtimuli ſhould be uſed; ſuch as the different forms of wine when the debility is moderate, and opiates when it is greater. At the ſame time, from the very firſt, rich ſoups ſhould be given in great quantity upon the whole, though not too much at once, and a gradual tranſition made to the uſe of more ſolid matter.

CCLXVII. As animal matter in this caſe is of ſervice, ſo the degree of ſtimulus, that ſeaſoning adds to it, improves its effect.

CCLXVIII. During the prediſpoſition to aſthenic diſeaſes, watery, cold, acid, fermenting liquors are hurtful, and that proportion of ſtrong liquor, that the degree of debility requires, is beneficial. But, after the diſeaſes have actually taken place, and have attained a great degree of vehemence, ſtrong liquors become ſo indiſpenſably neceſſary, that excepting ſoups, and the ſtill more diffuſible

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fuſible ſtimuli, they are the only ſupport required for a long time. There is no occaſion to fear the indirect ſtimulus of food, when the matter, which chiefly affords this indirect ſtimulus, viz. vegetable matter, is guarded againſt. Compare this with paragraph CCLXV.

CCLXIX. For the purpoſe of diminiſhing the ſtimulus, which an over proportion of chyle and blood (*g*), directly applied to a great extent of the body, gives; the over proportion, when it is very great, ſhould be removed by abſtinence, bleeding, and purging; when it is more moderate, but yet adequate to the effect of producing diſeaſes, the directions lately given (CCLV.), reſpecting a moderate

(*g*) The chyle is the alimentary matter, that has undergone a preparation in the ſtomach, and an after-one in the upper part of the inteſtinal canal, and which, ſo prepared, or in part digeſted, is taken up by the mouths of a number of ſmall veſſels that open into the inteſtines; theſe carry it to a great trunk, in which all theſe veſſels, called lacteal, unite, and through that trunk it is afterwards mixed, firſt with the venous, and then with all the other blood in ſucceſſion. Such is the nouriſhing matter of animals.

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diatheſis, ought to be obſerved; that is, we ſhould adhere to the practice of vomiting, and purging from time to time, and to ſparingneſs in diet. But blood ſhould not be let. And, if upon any occaſion, the patient ſhall give way to a little freedom in his uſe of food, it ſhould conſiſt of vegetables; and he ſhould afterwards obſerve abſtinence, and take gentle and frequent exerciſe, ſo as to keep up a full perſpiration.

CCLXX. The means of cure for an exceſs in the velocity of the blood (paragraph CXXXI. to CXXXIV.), in ſo far as it depends upon an over proportion, are the ſame: when the velocity depends upon violent motion of the body, the means of leſſening it, as long as the diatheſis is confined to prediſpoſition, or to a ſlight degree of actual diſeaſe, are an abatement of exerciſe, more indulgence in reſt, and a reduction of other ſtimuli. In that high diatheſis, which occaſions ſevere diſeaſes, in order to retard the motion of the blood, the ſtimulus of all the exciting powers muſt be ſtudiouſly avoided, and blood muſt be drawn profuſely. Here

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it is ſuperfluous to lay down any rule for the obſervance of reſt, as reſt, even in ſpite of the patients, is unavoidable (*b*).

CCLXXI. Withdrawing the powers that occaſion an over-proportion of the ſecreted fluids in the excretory ducts, is the beſt method of removing the ſtimulus, which that over-proportion, by its diſtending effect, produces (*i*). The cure, therefore, conſiſts in more frequent coition, drawing off the milk, taking in food of a leſs nouriſhing nature, and in reſtoring the perſpiration by removing the ſthenic diatheſis upon the external ſurface.

CCLXXII. To remove the debility, or atony and laxity, of the veſſels, which is occaſioned by a penury of chyle and blood over

(*b*) It would be ridiculous to require of a patient in the rage of peripneumony not to run a race, when his real ſtate is, that he cannot move or turn himſelf in the bed without pain.

(*i*) In par. CXXXVI. you will find, that the ſecreted fluids, here alluded to, are the milk, the ſemen, and the perſpirable fluid. As the diſtention occaſioned by the over-abundance produces the morbid ſtimulus, ſo the ſubduction of the fluids muſt, of courſe, take it off, and give the deſired relief.

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a very great extent of the ſyſtem (*k*), firſt, the ſtrength muſt be gradually reſtored by diffuſible ſtimuli (*l*) and ſoups; next, we ſhould gradually

(*k*) How great the ſpace or extent of the ſyſtem is, that, in the ſthenic diatheſis, receives the ſtimulus of an over-abundance of blood; and which, in the aſthenic diatheſis, is ſubjected to the debilitating power of an under-proportion of the ſame fluid; may eaſily be conceived from the well known fact, that there is not a ſoft part in the whole ſyſtem, into which the inſertion of the point of the fineſt needle will not draw blood; conſequently, the ſtimulus ariſing from an over-abundance of blood, as well as the debility ariſing from too ſmall a quantity, muſt be the moſt conſiderable of all others. Every circumſtance here concurs to render the one the greateſt ſthenic, and the other an equal aſthenic, noxious power. If the force of every ſtimulus, of every exciting power, be in proportion, firſt, to the degree of it applied; ſecondly, to the ſenſibility of the part on which it acts; and, thirdly, to the extent of that part; it will be no wonder, that theſe two powers ſhould prove the moſt formidable of all others. Hence it is, that, in the curative part, bleeding is the moſt powerful remedy of ſthenic, and filling the veſſels an equal one, of aſthenic diatheſis.

(*l*) Which act by giving vigour to the whole ſyſtem, and more eſpecially to the ſtomach, with which they come into actual contact. Hence digeſtion, and the converſion of the matter taken in into good chyle and blood; and hence, at laſt, the fulneſs of the veſſels firſt indicated.

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gradually ſubſtitute ſolid food for ſoups; and laſtly, to give the whole ſyſtem ſtill more ſtrength, it ſhould be fortified by exerciſe, and the reſt of the durable ſtimuli; but the uſe of diffuſible ſtimuli ſhould not be extended beyong the period of conſiderable debility (*m*).

CCLXXIII.

cated. The proceſs of emptying the veſſels in the cure of ſthenic diatheſis has the advantage of being the firſt in order; and hence it is that the cure of ſthenic diſeaſes is more quickly effected than that of the aſthenic, it being, over all nature, much more eaſy to take away than replace. See and compare paragraph CXXVI, and CXXX. and ſubjoined notes, and a little above, par. CCLXVI.

(*m*) The ſole uſe, and a great one, of the diffuſible ſtimuli is, in great weakneſs, where they are only required, to ſupport the ſyſtem, while it cannot be ſupported by the ordinary durable ſtimuli; and, after the excitement is ſo far reſtored, that the ordinary ſupports are now ſufficient, to lay aſide the extraordinary, the continuance of which would now be hurtful, and to manage the convaleſcent, and reſtored, ſtate of health by the powers employed in health. When the diffuſible are continued longer, they are equally hurtful, and a cauſe of diſeaſe, as they are ſerviceable when diſeaſe requires their ſupport; analogous to wine, they bring about the ſyſtem in a weakened ſtate to be ſuſtained by its natural and ordinary ſupports; but, analogous to it in another reſpect, when the ſtrength of the

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CCLXXIII. In a weak ſtate both of the veſſels and of the reſt of the body, every conſiderable motion of the body, and all other ſtimuli, which quicken the motion of the blood, and bring on temporary indirect debility, ſhould be avoided. But in ſlighter debility, ſuch motion as does not prove fatiguing, but acts as an agreeable ſtimulus, and refreſhes, ſhould be enjoined. During convaleſcence, the patient ſhould be gradually brought back to his uſual plan of life; nor

ſyſtem requires not their additional ſtimulus, they carry it up into indirect debility, and prove the cauſe of diſeaſes and death. In one word, whatever has been ſaid againſt the propriety of the uſe of exceſſive, and ultimately exceſſive ſtimulant powers, the former producing ſthenic diatheſis, and the latter indirect debility, all that applies, with propriety, for the diſcontinuance of the uſe of diffuſible ſtimuli, when the durable are now ſufficient for the purpoſes of the ſyſtem. And another argument that ſtill remains againſt the ſuperfluous uſe of both the diffuſibles and ſtrong drink, when debility requires not their uſe, is, that, independent of death, or even diſeaſes, being their immediate conſequence, prediſpoſition to diſeaſes muſt; conſequently, as the ſyſtem muſt at laſt be worn by ſtimuli, all the unneceſſary, that is, all that do not contribute to that middle vigour, in which ſound health conſiſts, ſhould be avoided.

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ſhould it be forgotten, that, till this is done, health is not completely reſtored.

CCLXXIV. The debility, which an under-proportion of ſecreted fluids, or a degenerate, though plentiful ſtate of them, produces in the excretory ducts, is removeable by the ſtimulant plan of cure (CCLXXII.), not by antiſeptics.

CCLXXV. The remedy for that ſort of ſtimulus, which ariſes from either intenſe or conſtant thinking, is either an abatement in the degree of thinking, or elſe ſuch an exertion of the intellect, as by exhauſting the excitability, ſhall prove indirectly debilitating. This laſt expedient, however, though it may be adapted to the ſtate of prediſpoſition, is by no means ſafe, after the diſeaſe has once made its appearance, and eſpecially if it be violent; becauſe no benefit can reſult from it, till a degree of excitement, that would probably prove injurious, has been raiſed by the ſtimulus.

CCLXXVI. In order to cure a ſlight ſthenic diatheſis, ſuch as occurs in prediſpoſition, and to prevent diſeaſe, habitual paſſion ſhould be avoided; but the removal of actual

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actual diſeaſe requires the firſt guſt of paſſion to be prevented. Exceſs of paſſion, upon account of the intermediate danger of ſtimulating too much, is by no means to be thought of, as the means of inducing indirect debility.

CCLXXVII. Where debility depends upon exceſs of mental exertion, or upon a languid ſtate of the intellect, the exceſs ſhould be diminiſhed, the languor removed, and an agreeable train of thinking promoted; without which latter, however much all the other ſtimulant powers may have been employed, it may be depended upon, that perfect health, in every reſpect, will not be reſtored (*n*).

CCLXXVIII.

(*n*) The ſtate of the intellectual function has a great influence upon that of excitement; and, often, when all other ſtimuli have been applied in due proportion, the deficiency of that ſingle ſtimulus will point out a want in the proper meaſure of excitement. There is not a finer ſtimulus than the pleaſurable feeling ariſing from a happy train or flow of thinking; hence the high delight that ariſes from a flight of wit, or from a pleaſant vein of humour; hence all the fine feelings of the belles lettres; hence, in youth, the ardent keenneſs to be acquainted with the learning, wiſdom, and elegant pro-

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CCLXXVIII. In every degree of debility, ſuch force of paſſion, as produces indirect debility,

ductions of the ancients, as well as of thoſe, who have made a diſtinguiſhed figure in later times; hence the enthuſiaſm, ſo natural to the human feelings, to out-ſtrip others in every mental excellency: The arts, the ſciences, every department of human knowledge, are all the effects of that intellectual propenſity. How happy would it be for mankind were this noble ſtimulus duly cheriſhed! What benefits, which ſociety is deprived of, would not accrue from a proper cultivation of it! How fine was that feeling in Julius Cæſar Scaliger, when he declared he would rather be the author of Horace's few ſtanzas of Lydia and Telephus, than accept of the crown of Arragon! What muſt have been the delight of Pythagoras, when he found out the XLVIIth. propoſition of the firſt book of the mathematical elements, commonly called Euclid's? He jumped about in an ecſtacy, crying out Εὕρηκα, and was ſo much more ſubſtantial than ſome of his few brother diſcoverers, as to poſſeſs the means of offering a ſacrifice of an hundred fat bullocks to the gods. See Obſervations on the Principles of the old Syſtems of Phyſic, from page ix. to xv. of the Introduction. How delightful muſt the feelings of Horace have been, in whoſe works every ode is an effort of the moſt beautiful, and, frequently, of the moſt ſublime, conceptions of human genius! What muſt have been the fire and force of Milton's ſoul, in the deſcription that he gives of the appearance

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bility, muſt be avoided; nor muſt it be forgotten, that a very ſmall degree of it is ſufficient for this effect: we are not even to indulge agreeable paſſions too freely (*q*).

CCLXXIX.

pearance of the Son of God in his celeſtial panoply, "his countenance too ſevere to be beheld!" How towering that ſoul, how exalted that intellect, which the great marquis of Montroſe diſplayed in a ſtratagem, which converted into a glorious victory a blunder in one of his officers, that might have proved fatal to both his cauſe and his glory. When it was whiſpered to him, ſtanding in the centre of his army, that one of his wings was overpowered, he ſhouts out to the commander in the other: "My Lord Aboyn, ſhall you and I ſtand here doing nothing, and M'Donald carry off all the honour of the day!"

(*q*) See above, par. XLIII. and CXLI. Recollect the method preſcribed in the XLIII. paragraph of this work for preventing the fatal cataſtrophe of the Roman woman, when her ſon, whom ſhe had counted upon, for certain, in the number of the dead, was, contrary to every expectation, preſented to her in perfect health. The danger and fatality of her ſtate was, that her excitability was too accumulated, with reſpect to the ſtimulus of exciting paſſion, to bear ſuch a ſtrong impreſſion as that which the preſence of her ſon, in life and health, had made. She was in the ſtate of a famiſhed perſon, whoſe accumulated excitability is overpowered by a ſingle morſel of food, or of a perſon, who had been long

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CCLXXIX. When there is a deficiency of paſſion, as in ſadneſs, grief, fear, terrour, and deſpair, which are only inferiour degrees of gladneſs, confidence, and hope, and imply only a diminution of exciting paſſions; the deficiency muſt be ſupplied, and the exciting degree of paſſion recalled; hope and aſſurance muſt be infuſed, and the patient gradually carried up to the feelings of joy.

II. For there is a ſum total of paſſion, which acts in the ſame manner as other ſtimuli, that is, by ſtimulating either in exceſs, or in due, or in deficient, proportion; nay, like the reſt, as often as any one is deficient, by accumulating the excitability, it makes the other ſtimuli act more powerfully (XXXVII. and the note). Take, for inſtances, the terrour of an army before the trumpet ſounds for battle, and the courage with which they

long affected with thirſt, where the ſmalleſt indulgence in drink may prove fatal; or of a perſon, nearly ſtarved to death by cold, in whom a raſh approach to heat might induce the ſame fatal effect; all which are preciſely upon the ſame footing, and equal inſtances of an excitability too accumulated to bear any degree of ſtimulus.

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are afterwards inſpired, by the conſciouſneſs of their own bravery, the general's ſpeech to animate them, or, perhaps, his commemoration of their former brave deeds.

P. Exceſſive voluptuouſneſs in the exerciſe of the ſenſes, as well as diſagreeable objects, ſhould equally be avoided in aſthenic diatheſis; in ſthenic diatheſis, they ſhould be guarded againſt on account of the agitation they produce.

Σ. Nothing is better accommodated to the aſthenic ſtate, than a pure air; which, either alone, or joined with exerciſe, muſt, conſequently, be of the greateſt benefit to convaleſcents.

T. Since the matter of contagion, in ſo far as it has any tendency to produce general diſeaſe, produces either ſthenic (*o*), or aſthenic, diatheſis (*p*), and acts by an operation ſimilar to that of the general noxious powers, general remedies ſhould be employed in the cure; and debilitating ones oppoſed to ſthenic, ſtimulant ones to aſthenic, diatheſis.

(*o*) As in the ſmall-pox and meaſles.

(*p*) As the contagious typhus, the gangrenous ſore throat, dyſentery, and the plague.

CCLXXX.

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CCLXXX. Theſe powers, the ſame in kind with thoſe that produce the diatheſes, but differing in degree and in that reſpect diametrically oppoſite, remove the diatheſes ſeldomer, and leſs ſucceſsfully, when ſingle; oftener, and more effectually, when ſeveral co-operate, but, beſt of all, when taken together, eſpecially if there is occaſion for a great curative effect.

END OF VOL. I.

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